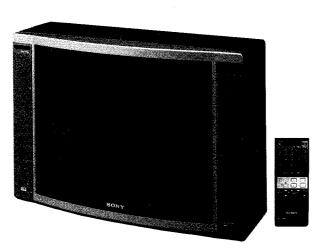
# KV-25XSD/25XSTD

### **SERVICE MANUAL**



### AEP Model

KV-25XSD: Chassis No. SCC-B14B-A KV-25XSTD: Chassis No. SCC-B14A-A

AE-1 CHASSIS

Note: The service manuals for RM-673 have been issued separately.

MODELS OF THE SAME SERIES				
KV-25XSD/25XSTD				
- VIII				

### **SPECIFICATIONS**

Television system

Color system Stereo system

German two-carrier system

CCIR B, G and H

PAL SECAM

Channel coverage

VHF channels E2-S20

UHF channels E21-E69

Picture tube

Trinitron tube 110-degree deflection Approx. 63.5 cm (25 inches)

(Approx. 59 cm picture measured diagonally)

Audio output

10W + 10W (music power)

Inputs

21-pin EURO-AV connector, CENELEC Standard

Outputs

Headphones jack: stereo minijack External speaker tarminals: 2-pin DIN

Power consumption

92 Wh: KV-25XSD 96 Wh: KV-25XSTD

Dimensions

Approx. 720 x 506 x 468 mm (w/h/d)

Weight

Approx. 37 kg

Supplied

RM-673 Remote Commander (1)

accessories

IEC designation R6 batteries (2)

Design and specifications are subject change without notice.







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### SAFETY-RELATED COMPONENT WARNING!

COMPONENTS IDENTIFIED BY SHADING AND MARK 

ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### SECTION 1 **GENERAL**

### 1-1. FIRST OF ALL

Connect the ANTENNA to the ar socket on the rear of the set. This socket receives the standard 75-ohm aerial plug.

Plug in the set.

Tune in the available channels.

Use the buttons inside the front panel. To open the panel, press the centre.

### To tune in all channels automatically:

- 1 Press → (PRESET)
- 2 Press PROGR to select the program position from which tuning is to start.
- 3 Press → (AUTO PROGRAMING)

The channels will be tuned in and memorized in consecutive positions. beginning from the program position selected in step 2.

When tuning has been completed, the set returns to the position where tuning began.

### To tune in a channel in any desired program position.

(e.g. the position with the same number as the channel):
1 Press (PRESET)
2 Press PROGR to select the desired program position.

- 3 Press C (CLEAR)
- 4 Press (SEARCH) repeatedly until the desired channel appears.
- 5 Repeat steps 2 to 4 for all channels, if required.
- 6 Press → (PRESET) again.

### To have the unused program positions skipped when PROGR+ or PROGRis pressed:

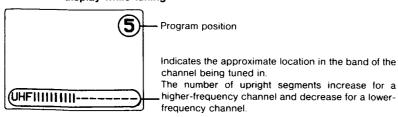
- Press → (PRESET)
   Press PROGR to select the unused position.
- 3 Press C (CLEAR)
- 4 Repeat steps 2 and 3 for all unused positions.
- 5 Press → (PRESET) again.

### Note

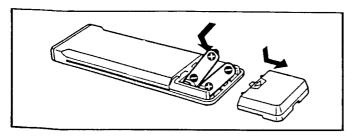
If the set is to be used in an area with poor reception preset the program numbers between 1 and 19 for TV program use.

When watching a video with the VTR connected to the connector. set the channel for the video to program n° 0 or any empty channel between 20 and 29.

### On-screen display while tuning

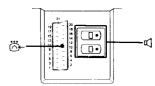


### Inset two R6 batteries checking the correct polarity.



### 1-2. CONNECTING OTHER EQUIPMENT

Connectors on rear of set



L/G/S	Leti external speaker terminal (2-pin DIN)	Connect to external speakers
- <b>⋈</b> -		The TV speakers will be disconnected. Speaker 8-16Ω
R/D/D	Right external	disconnected. Speaker 8-1612
,, .	speaker terminal	
	(2-pin DIN)	
	21-pin connector	Connect to a VTR
	(CENELEC standard)	
	·	using an optional connection
		cord. The picture of the TV
		channel being received is
		always output.

### VTR operation using the supplied Commander

To control a Sony 8mm VTR

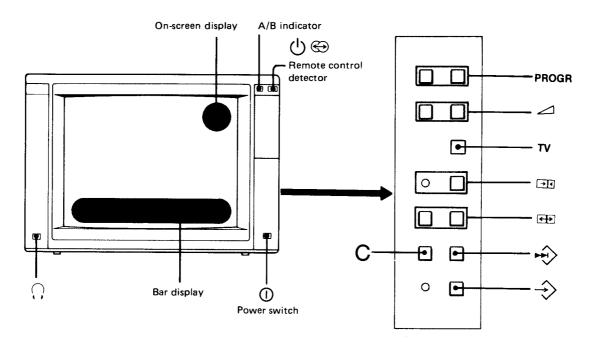
Remote operation of the VTR is limited to the features and functions of the VTR. For further details refer to the VTR manual.

Move the VTR away from the TV, if the picture or sound is distorted

Pin No.	Signal	Signal level				
1	Audio output B (right)	Standard level: 0.5 Vrms Output impedance: Less than 1 k ohm*				
2	Audio input B (right)	Standard level: 0.5 Vrms Input impedance: More than 10 k ohms*				
3	Audio output A (left)	Standard level: 0.5 Vrms Output impedance: Less than 1 k ohm*				
4	Ground (audio)					
5	Ground (blue)					
6	Audio input A (left)	Standard level: 0.5 Vrms input impedance: More than 10 k ohms*				
7	Blue input	0.7 V ±2 dB, 75 ohms, positive				
8	Function select (AV control)	High state (9.5–12V): Part mode Low state (0–2 V): TV mode Input impedance: More than 10 k ohms Input capacitance: Less than 2 nF				
9	Ground (green)					
10	Open					
11	Green/Green with sync input	Green signal: 0.7 V ±2 dB, 75 ohms, positive Green with sync signal: 1 V ±2 dB, 75 ohms, positive				
12	Open					
13	Ground (red)					
14	Ground (blanki	ng)				
15	Red input	(Same as Pin 7)				
16	Blanking input (Ys signal)	High state (1-3 V) Low state (0-0.4 V) Input impedance: 75 ohms				
17	Ground (video	output)				
18	Ground (video input)					
19	Video output	1 V ±2 dB, 75 ohms, positive Sync: 0.3 V (—3, ±10 dB)				
20	Video input	1 V ±2 dB, 75 ohms, positive Sync: 0.3 V (-3, ±10 dB)				
21		d (plug, shield)				

<sup>\*</sup> at 20 Hz-20 kHz

### 1-3. FUNCTION OF CONTROLS



### On the set

### On-screen display

Indicates program numbers and 🕒 input mode.

### Bar display

Indicates the level of  $\triangle$  volume, 3 color, 5 brightness, 3 contrast, 5 bass, 6 treble and  $\triangle \triangle$  balance.

### 

When the volume is at the minimum setting the balance  $\triangleright \triangleleft$  function will not operate.

### ① power switch

To cut off the mains power completely, press this switch.

### Note

To ensure correct operation, push the switch in fully.

### () standby indicator

Lights up brightly when the set is in the standby mode.

### Note

If the main power is turned off when in standby mode, the standby indicator will take 2 to 6 seconds to go off.

### space sound indicator

### A/B indicator

One of them lights during bilingual broadcast. (Choose A or B with the Remote Commander.)

Both light during stereo broadcast. In AV mode, A lights for left channel, B for right channel, or A and B for both channels.

### Remote control detector

Point the Remote Commander towards this detector.

Note

• To ensure correct operation push the switch in fully.

### Inside the panel

### headphones jack (stereo minijack)

### search buttons

To restore the → (AFT) circuit on this channel, press → (AFT) so that the indicator lights up.

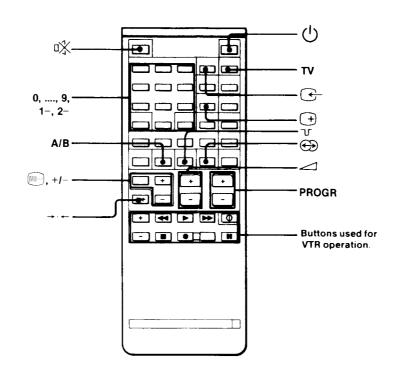
### **→** AFT button and indicator

### volume buttons

### PROGR program scan buttons

### TV button

• The TV button will not function on this set.



### On the Remote Commander

To operate the Commander, point it toward the remote control detector

### ₩ mute button

### 0, ...., 9, 1-, 2- buttons

To tune in to: program 15, press 1- and 5 program 25, press 2- and 5

### A/B button

Press to select the language in a bilingual broadcast, or to select the channel in AV mode.

### , +/- analog select buttons

Press → ← first, then press .

① (contrast) will appear on the screen. Adjust by pressing + or —. Press again and adjust ③ (color), ∴ (brightness), ۞ (bass), ﴿ (treble) and ▷ △ (balance).

### → ← reset button

Press to reset color, brightness, bass, treble, balance and contrast to factory-set levels.

### () standby button

Press to change to the standby mode. Use this button to turn off the set for short periods of time.

To turn on the set, press TV or the program number, there will be a slight delay before the picture is restored.

### TV button

Press to change to the TV mode from the standby,  $\bigcirc$  input or teletext modes.

### → input button

Press to view the input picture coming in through the  $\ddot{\varpi}$ -connector.

"O- " lights up on the screen.

Press TV or the program number to return to the TV  $\mbox{mode}$  .

### Toudness button

Press to emphasize high and low notes.

### + on-screen display button.

Press to make the display appear on the screen.

Press again to make it disappear.

### space sound button

Press to obtain special acoustic effects.

### PROGR program scan buttons

### ∠ volume buttons

### 1-4. VIEWING TELETEXT

To view the teletext service, use the Remote Commander. The buttons used for teletext operation are indicated in green

Operation

- Select the TV channel for the desired teletext service.
- 2 Press (TEXT/MIX) to display the teletext service. Once (F) / (TEXT/MIX) has been pressed, the TV cha nnel cannot be changed.
- 3 Key in the three digits for the desired page using the number buttons. If an error is made, complete the threedigit sequence by keying in any digit. Then, re-enter the correct page number.

The requested teletext page is displayed.

To return to the TV mode, press TV.

The teletext service can be displayed directly from the standby mode, by pressing ( / (TEXT/MIX)

#### To receive the teletext service of a different TV channel

- 1 Press TV to return to the TV mode.
- 2 Select the desired TV channel.
- 3 Press (F/F) (TEXT/MIX)

To receive the teletext service accurately, keep AFT inside the panel switched on during teletext operation.

### To display the index page

Press (INDEX.)

If the necessary signal is not being broadcast, page 100 is displayed

### To access the next or preceding page

Press (PAGE+) or (PAGE -).

If, for example, pages 160 is selected this page is displayed and pages 159, 161 and 162 are stored and may be called up immediately by means of the (F), (14) kevs.

To superimpose the teletext display on the TV picture Press (=) / (TEXT/MIX) twice from TV mode. Press again to return to the TEXT display

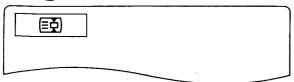
### To suppress the teletext display so that the TV picture is displayed

Press (X) (TEXT CL.)

This button can be operated from both the TEXT and MIX displays.

### To prevent a teletext page (subpage) from being updated/ changed

Press (HOLD) appears at the top of the screen.



To resume normal teletext reception, press TEXT/MIX.

### To enlarge the teletext display

Press (ENLARGE)

Press once to enlarge the upper half of the display; press again to enlarge the lower half of the display; press again to return to the normal display.

### To reveal concealed information such as the answers to a auiz

Press REVEAL

Press again to conceal the answers.

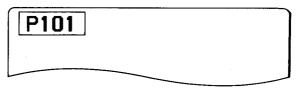
### To adust the contrast of the teletext display

Press until appears on the screen and adjust by pressing (III-) + or --.

### To watch the TV program while waiting for a requested page to be displayed.

Request new page.

2 Press (TEXT CL.) to watch the TV program. When the requested page has been captured, the page nu mber will appear on the top left hand corner of the screen.



To view this page, press (=) (F)(TEXT/MIX)

### To have a requested page displayed at a predetermined time

- Request a time coded page (e.g. alarm page).

2 Press ( (TP ON.)
"T\*\*\*\* will appear at the bottom of the screen.

T <b>**</b> *	

3 Enter your request time with the number buttons, using four digits. For example, 07:30.

T <b>0730</b>	
·	

To watch the TV program until the requested time, press (TEXT CL.) At the requested time, the page number will appear on the top left hand corner of the screen. To view this page, press (TEXT/MIX.) To cancel the request, first ensure that the teletext page is displayed, then press (TP OFF.)

### 1-5. SIMPLE CHECK LIST

Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed below.

### No picture (screen not lit), no sound

- Plug the set into a working outlet.
- Press ① on the TV or if the indicator is on, press TV or the Program number on the Remote Commander
- Check the aerial.

### Poor or no picture (screen not lit) but good sound

- Press the button on the remote commander.
   Adjust and with the + button.
- Press → -

### Good picture but no sound

- Press ⊿ +.
- Disconnect the earphone.
- If "X" is displayed on the screen, press X

### No color for color programs

Press the position on the remote commander.
 Adjust position with the position.
 With the position.

### Snow and noise

- · Fine tune the channel manually.
- Check aerial connections.

### **Dotted lines or stripes**

This may be caused by local interference (e.g. cars, neon signs, hairdryers, etc.). Adjust the antenna for minimum interference.

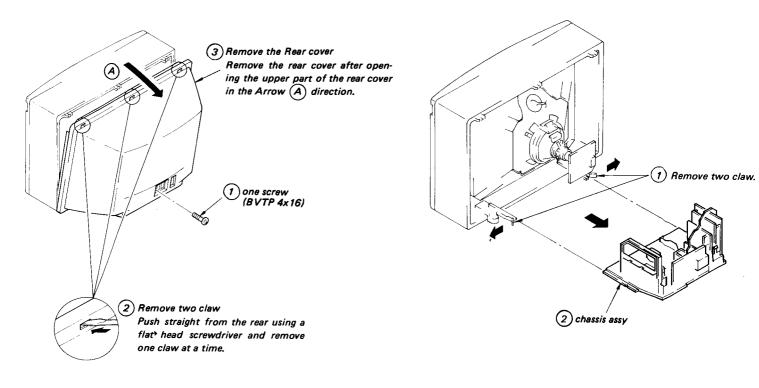
### Double images or "ghosts"

This may be caused by reflections from nearby mountains or buildings. A highly directional outdoor aerial may improve the picture.

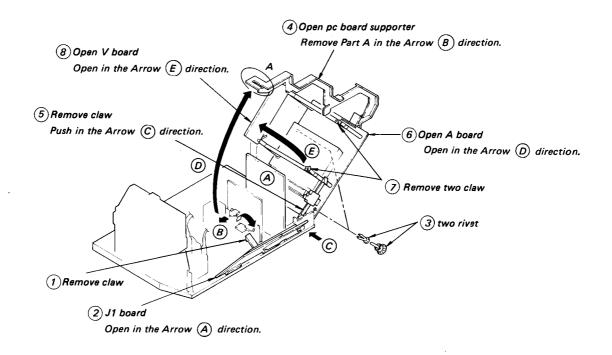
### SECTION 2 DISASSEMBLY

### 2-1. REAR COVER REMOVAL

### 2-2. CHASSIS ASSY REMOVAL

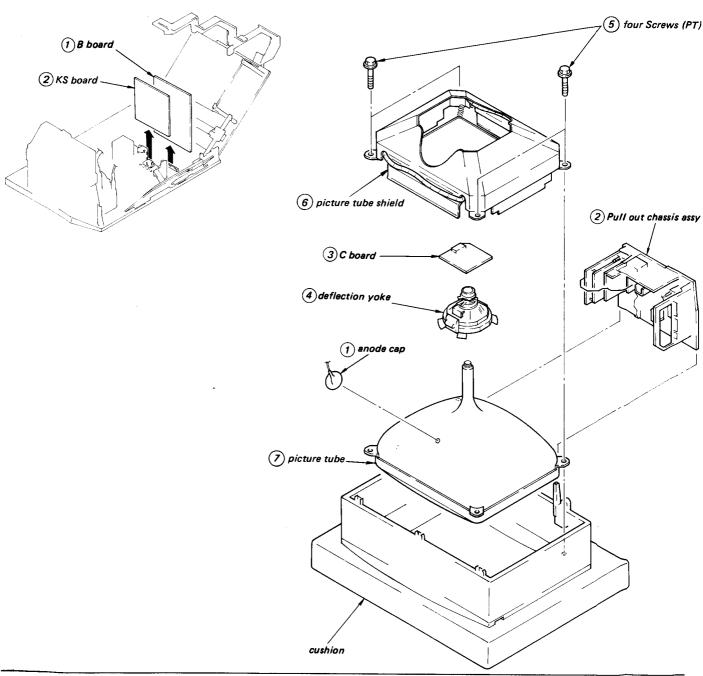


### 2-3. J1, A, V BOARD (V BOARD KV-25XSTD ONLY)



### 2-4. KS AND B BOARDS REMOVAL

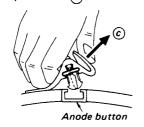
### 2-5. PICTURE TUBE REMOVAL

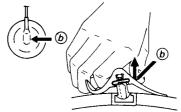


### • Removing Procedures



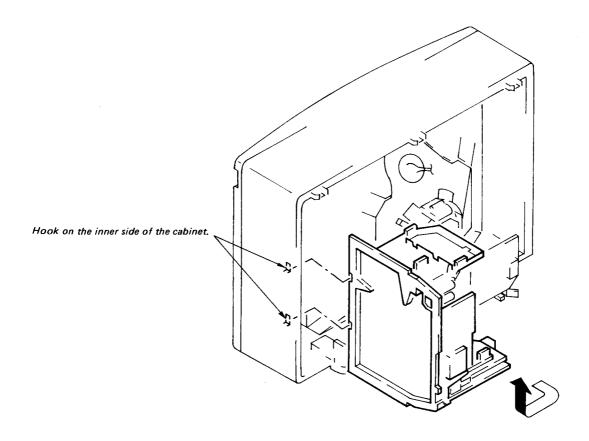
1) Turn up one side of the rubber cap in the direction indicated by the arrow (a).





- 2) Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow (b).
- 3 When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ©.

### 2-6. SERVICE POSITION



### **SECTION 3 SETUP ADJUSTMENTS**

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise

Controls and switch should be set as follows unless otherwise noted:

● CONTRAST control . . . . . . 80% (or Normal by Commander)

BRIGHTNESS control . . . . . 50%

Perform the adjustments in order as follows:

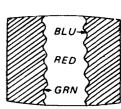
- 1. Beam Landing
- 2. Convergence
- 3. Focus
- 4. White Balance

Note: Test Equipment Required.

- 1. Color Bar/Pattern Generator
- 2. Degausser
- 3. DC Power Supply
- 4. Digital multimeter
- 5. Oscilloscope

### 3-1. BEAM LANDING

- 1. Input a raster signal with the pattern generator. **CONTRAST** normal **BRIGHTNESS**
- 2. Turn the raster signal of the pattern generator to
- 3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides, evenly. (Fig.  $3-1\sim3-3$ )
- 4. Move the deflection yoke forward, and adjust so that the entire screen becomes red.
- 5. Switch over the raster signal to blue and green and confirm the condition.
- 6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
- 7. When landing at the corners is not right, adjust by using the magnet. (Fig. 3-4)



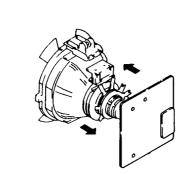
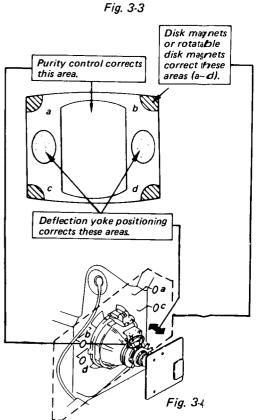


Fig. 3-1



purity control



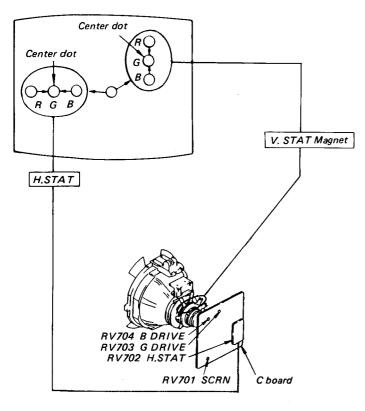
Fig. 3-2

### 3-2. CONVERGENCE

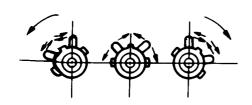
### Preparation:

- Before starting, perform FOCUS, H. SIZE, V. SIZE and V. LIN adjustments.
- Set BRIGHTNESS control to fully minimum.
- Feed in the dot pattern.

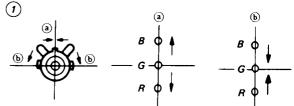
### (1) Horizontal and Vertical Static Convergence

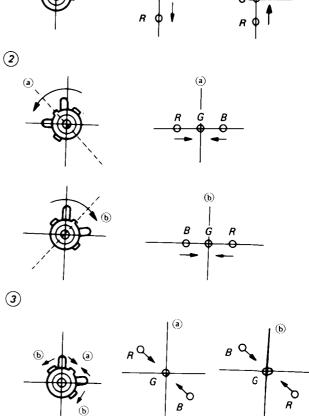


- Adjust H. STAT VR to coincide red, green and blue dots on the center of screen (Horizontal movement)
- Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen (Vertical movement)
- 3. If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform horizontal convergence adjustment using H. STAT VR and V. STAT magnet as shown below. (In this case, H. STAT VR and V. STAT magnet effect each other.)
- Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



4. When the V. STAT magnet is moved in the direction of arrow (a) and (b), Red, Green and Blue dots move as shown below.



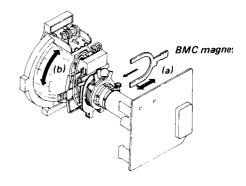


If the red and blue dots do not coincide with green dot, perform following steps.

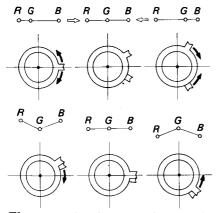
Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.

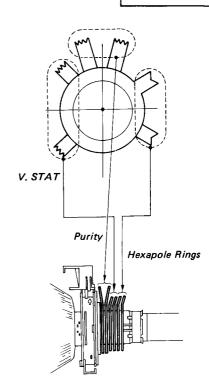


### (2) Operation of Hexapole Ringed Magnet



The respective dot operations resulting from the operation of each magnet are not completely independent, so be sure to perform adjustment while tracking.

Use the H. STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

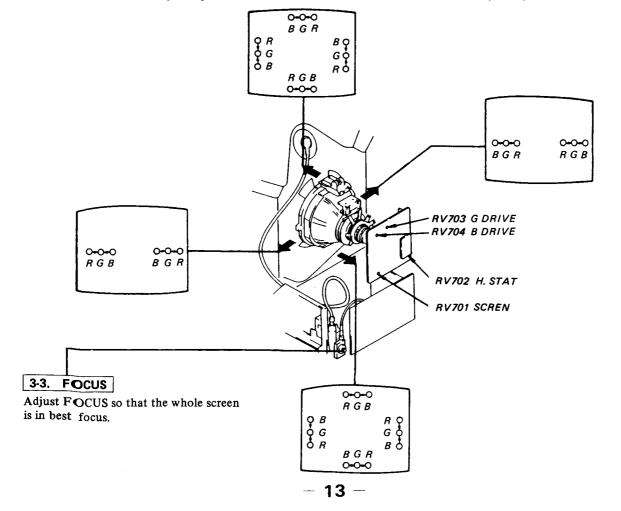


### (3) Dynamic Convergence Adjustment

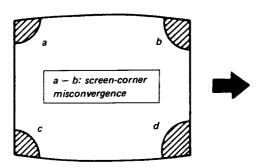
### Preparation:

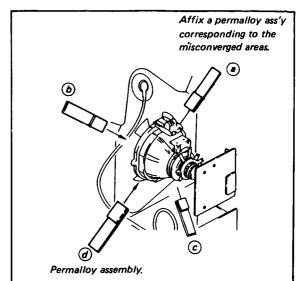
- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- 1. Loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.

- 3. Move the deflection yoke for best convergence as shown below.
- 4. Tighten the deflection yoke screw.
- 5. Install the deflection yoke spacers.



### (4) Screen-corner Convergence





### 3-4. WHITE BALANCE

### [Scree (G2) Setting]

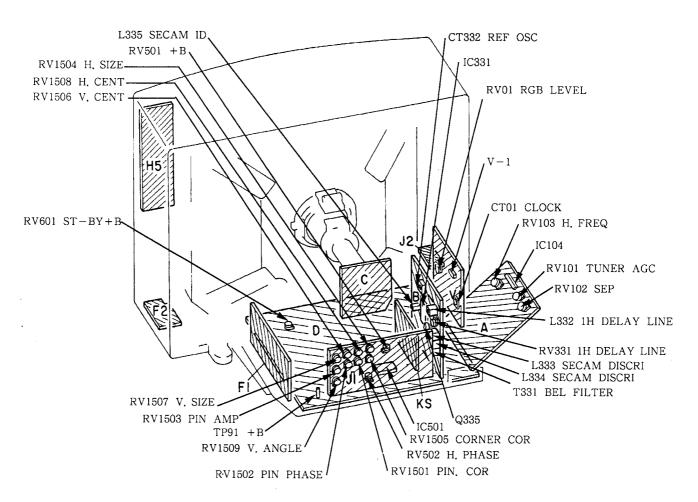
- 1. Receive a dot signal from the pattern generator.
- 2. Set the picture brightness control to the minimum level.
- 3. Apply 170V<sub>DC</sub> to the cathodes of R, G, and B from an external power source.
- 4. Adjust the G2 volume knob (RV701) immediately before the fly-back line disappears while watching the picture.

### [White Balance Adjustment]

- 1. Receive an all-white signal from the pattern generator.
- 2. Adjust the picture brightness and color control to the standard level.
- 3. Adjust the white balance using RV704 (B DRIVE) and RV703 (G DRIVE).

In following adjustment the condition of CONTRAST COLOR and BRIGHTNESS are normal unless otherwise specified.

### **SECTION 4** CIRCUIT ADJUSTMENTS



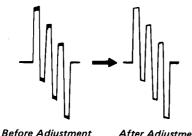
### 4-1. B BOARD ADJUSTMENTS

### REF OSC Adjustment (CT332)

- 1. Input PAL COLOR BAR signal.
- 2. Shot circuit between pin (17) of IC331 and ground.
- 3. Adjust CT332 to obtain color synchronization.
- 4. Remove a jumper wire from IC331.

### 1H DELAY LINE Adjustment (L332, RV331)

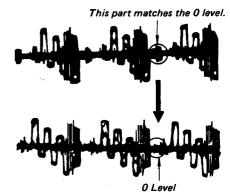
- 1. Input a PAL COLOR BAR.
- 2. Connect the oscilloscope to Pin(3)(B-Y) of IC331 and observe the waveform of the H block on the oscil-
- 3. Adjust L332 to minimize the double waveform outline.



After Adjustment

4. Input a TEST COLOR BAR.

5. Rotate the RV331 control and adjust till the ANT PAL of the waveform part matches the O level.



6. L332 and RV331 affect each other. Repeat till the conditions of both meet.

### SECAM ID Adjustment (L335)

- 1. Input SECAM COLOR BAR signal.
- 2. Connect a Digital Multi-meter at pin (21) of IC331.
- 3. Adjust L335 so that the indicater goes up to the maximum.

### BELL FILTER Adjustment (T331)

- 1. Input SECAM COLOR BAR signal.
- 2. Connect an oscilloscope to the emitter of Q335.
- 3. Adjust T331 so that the waveform becomes flat. (fig. 1)

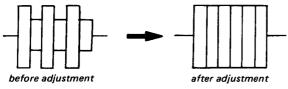
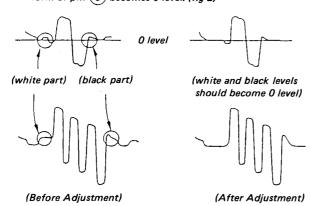


fig. 1

### SECAM DISCRI Adjustment (L333, L334)

- 1. Input SECAM COLOR BAR signal.
- 2. Connect an oscilloscope at pin (1) of IC331.
- 3. Adjust L333 so that white and black part of the waveform of pin 1 becomes 0 level. (fig 1)
- 4. Connect an oscilloscope at pin (3) of IC331.
- 5. Adjust L334 so that white and black part of the waveform of pin (3) becomes 0 level. (fig 2)



### 4-2. D BOARD ADJUSTMENTS

### +B Adjustment (RV501)

- 1. Connect a digital multimeter to TP91.
- 2. Adjust RV501 so that the voltage becomes  $135 \pm 0.2V$ .
- \*Adjust within 30 sec to 60 sec after the power is turned on.

### ST-BY +B Adjustment (RV601)

- 1. Set up (1) standby (Remote Commander) mode.
- 2. Connect the digital multimeter to TP91.
- 3. Adjust RV601 so that the voltage becomes  $135 \pm 3V$ .
- 4. Release the (1) standby (Remote Commander) mode.

### H PHASE Adjustment (RV502)

- 1. Input the PAL TEST COLOR BAR signal.
- 2. Set the CONTRAST and BRIGHTNESS controls to the standard positions.
- 3. Set RV1508 (H CENT) to the mechanical centre posi-
- 4. Connect an oscilloscope to Pin (11) (SPC OUT) of IC501.
- 5. Rotate RV502 and adjust Block to 5.1  $\pm$  0.1  $\mu$ s.

## 5.1 ± 0.1 µs **- 16 -**

### 4-3. A BOARD ADJUSTMENT

### H. FREQ. Adjustment (RV103)

- 1. Input PAL COLOR.
- 2. Shot circuit between pin (12) of IC104 and ground.
- 3. Connect a frequency counter to the pin (6) of IC104 through a probe of 10:1.
- 4. Adjust RV103 so that H. frequency becomes 15,625 ±50Hz.

### TUNER AGC Adjustment (RV101)

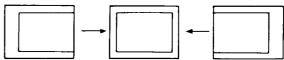
- 1. Tune in an off-air signal.
- 2 Adjust RV101 so that snow-noise and cross-modulation just disappear from the picture.

### STEREO SEPARATION Adjustment (RV102)

- 1. Receive a stereo signal (L-CH 1kHz, R-CH 400Hz)
- 2. Comfirm the stereo indicator.
- 3. Connect an oscilloscope to the pin (1) (L) of CNA11 through band pass filter of 1kHz.
- 4. Adjust RV102 so that 1kHz voltage goes down to the minimum.

### 4-4. J<sub>1</sub> BOARD ADJUSTMENTS

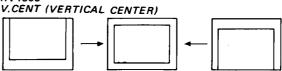




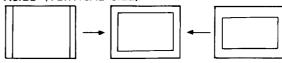
### RV1504 H.SIZE (HORIZONTAL SIZE)



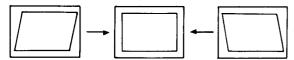
### RV1506



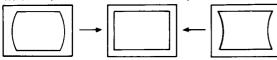
### RV1507 V.SIZE (VERTICAL SIZE)



#### RV1509 V.ANGLE (VERTICAL ANGLE)



### RV1503 PIN AMP (PINCUSHION AMPLIFIER)

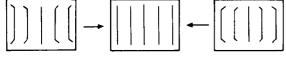


# RV1502 PIN PHASE (PINCUSHION PHASE)

### RV1501 PIN. COR (PINCUSHION CORRECT)



### RV1505 CORNER. COR (CORNER CORRECT)



### 4-5. V BOARD ADJUSTMENTS (KV-25XSTD ONLY)

Clock Adjustment (CT01)

- 1. Disconnect the V-1 connector.
- 2. Set up the TELETEXT mode.
- 3. Adjust CT01 to stop picture from scrolling.

### RGB Level Adjustment (RV01)

- 1. Set PICTURE to maximum.
- 2. Adjust RV01 till the RGB output becomes 0.65 V.

### 4-6 SUB ADJUSTMENTS

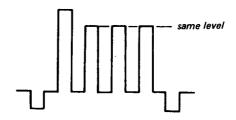
### SUB BRIGHTNESS Adjustment

- 1. Receive and display a TEST COLOR BAR pattern.
- Push → · ← with the remote controller to invoke the normal state.
- 3. Turn off the power supply.
- 4. Turn on the power supply wile pushing the SUB button (S1414). (SUB mode is invoked.)
- 5. Reduce the ( ) CONTRAST to the minimum level.
- Adjust the BRIGHTENESS control until the 0 IRE of the gray scale becomes completely cut off, and the 20 IRE becomes barely luminous.

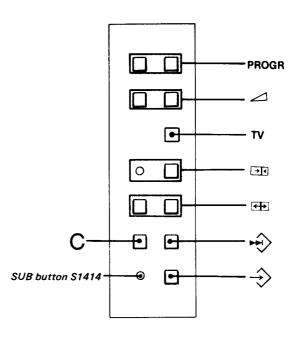
- 7. Push the AFT button (SUB mode is cleared).
  Where no TEST COLOR BAR pattern is available.
- 1. Display a COLOR BAR pattern.
- Push →·← with the remote commander to invoke the normal state.
  - Set the ③ COLOR to BLACK WHITE, the mode, 3 ~ 5 are the same as above.
- Adjust the BRIGHTENESS control until 20 IRE, which is close to blue, until blue lights faintly.
- 7. Same as above.
- Push → · · with the remote commander to invoke the normal state.
- \* When "4" is executed correctly, S (SUB mode) is displayed on the upper right corner of the display. As S is displayed only for 30 seconds, adjust within 30 seconds, or repeat from 4 again.

### SUB COLOR Adjustment

- 1. Display a COLOR BAR pattern.
- Push →•← with the remote commander to invoke the normal state.
- 3. Turn off the power supply.
- 4. Turn on the power supply while pushing the SUB button (\$1414). (\$UB mode is invoked).
- Adjust the COLOR control until the B out (Pin 2) of CNC72 connector on C board) waveform becomes as shown below.
- 6. Push the AFT button. (SUB mode is cleared.)



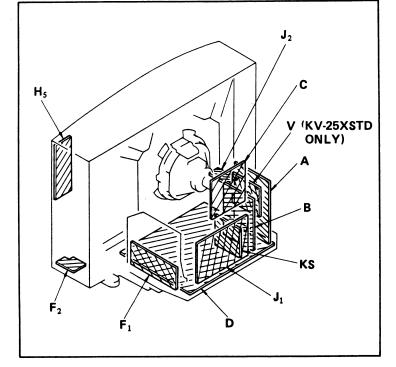
When "4" is executed correctly, S (SUB mode) is displayed at the upper right corner of the display. As S (SUB mode) is displayed only for 30 seconds, adjust quickly, or restart from 4 again.



KV-25XSD/

**SECTION 5** DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



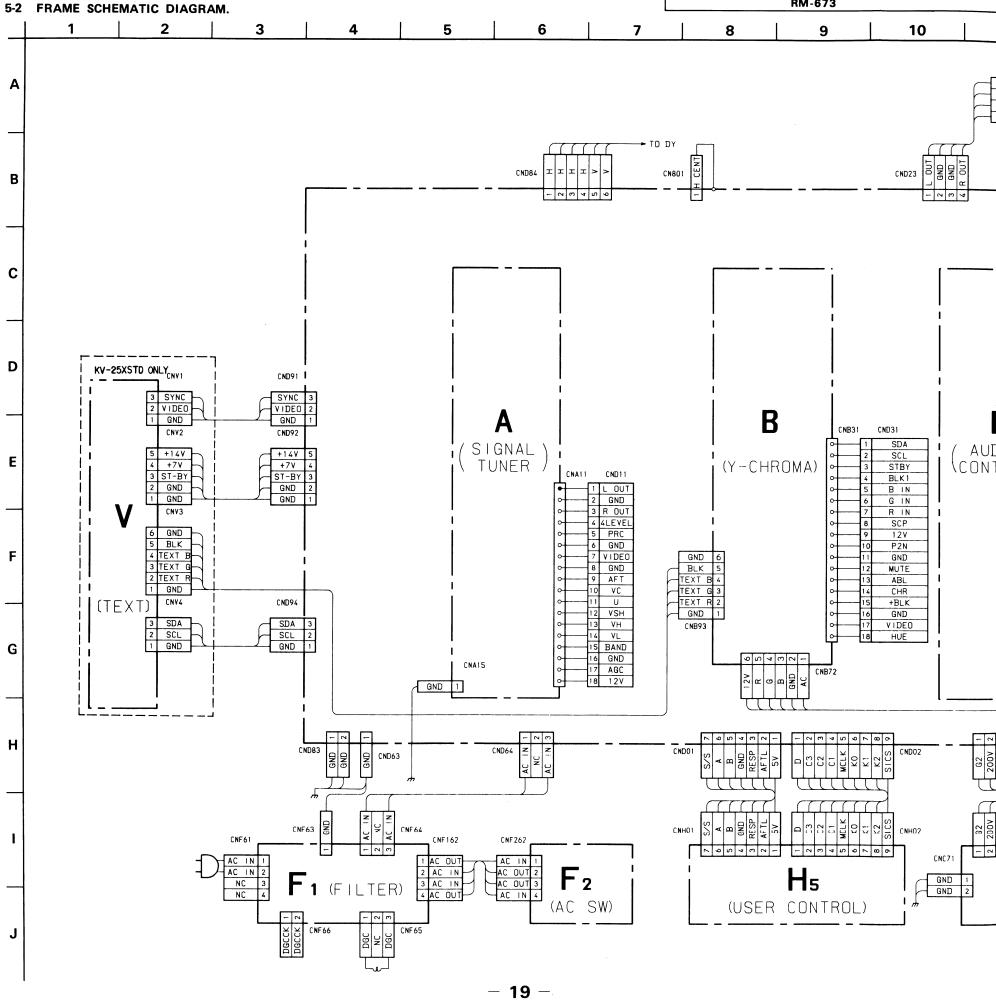
В

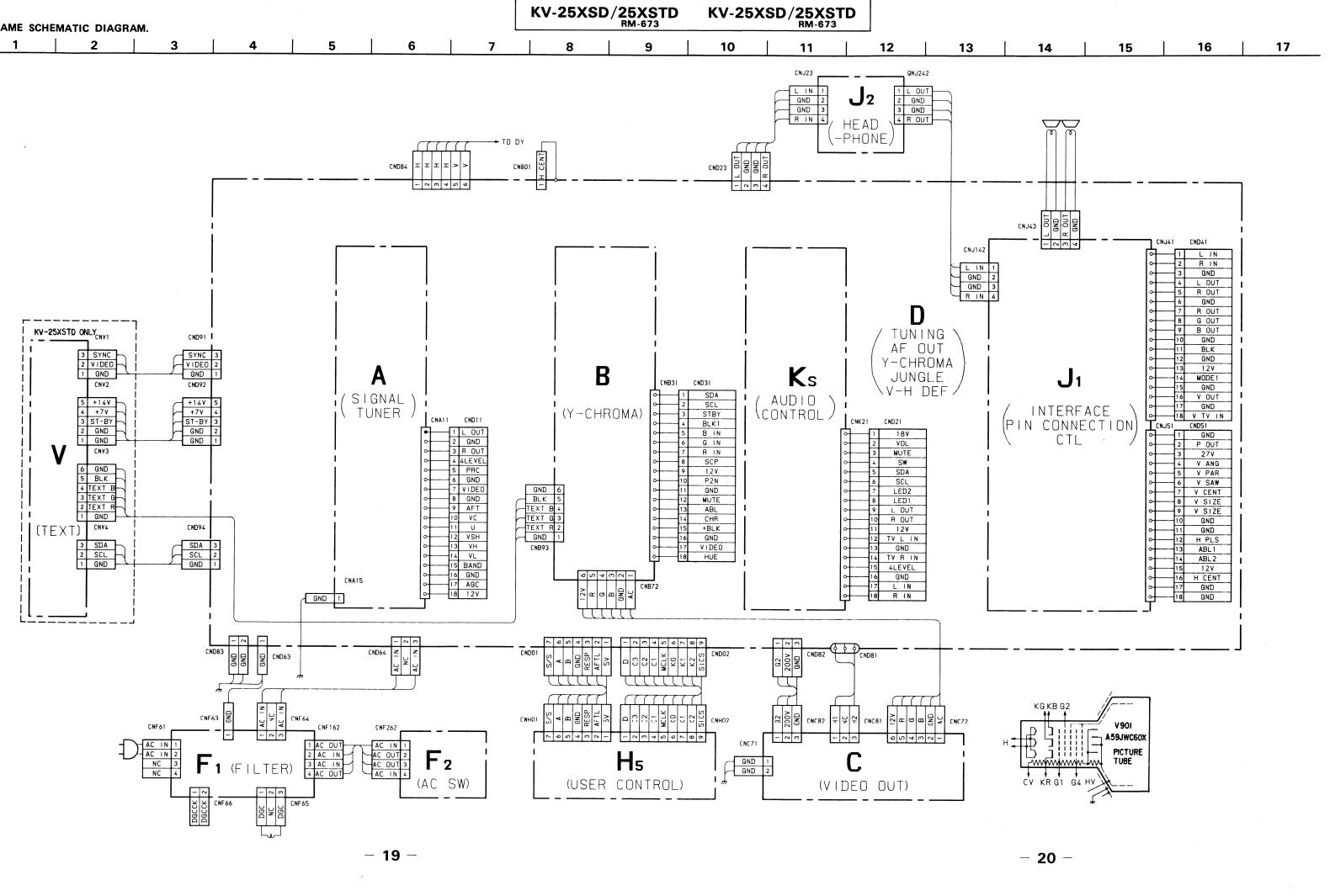
С

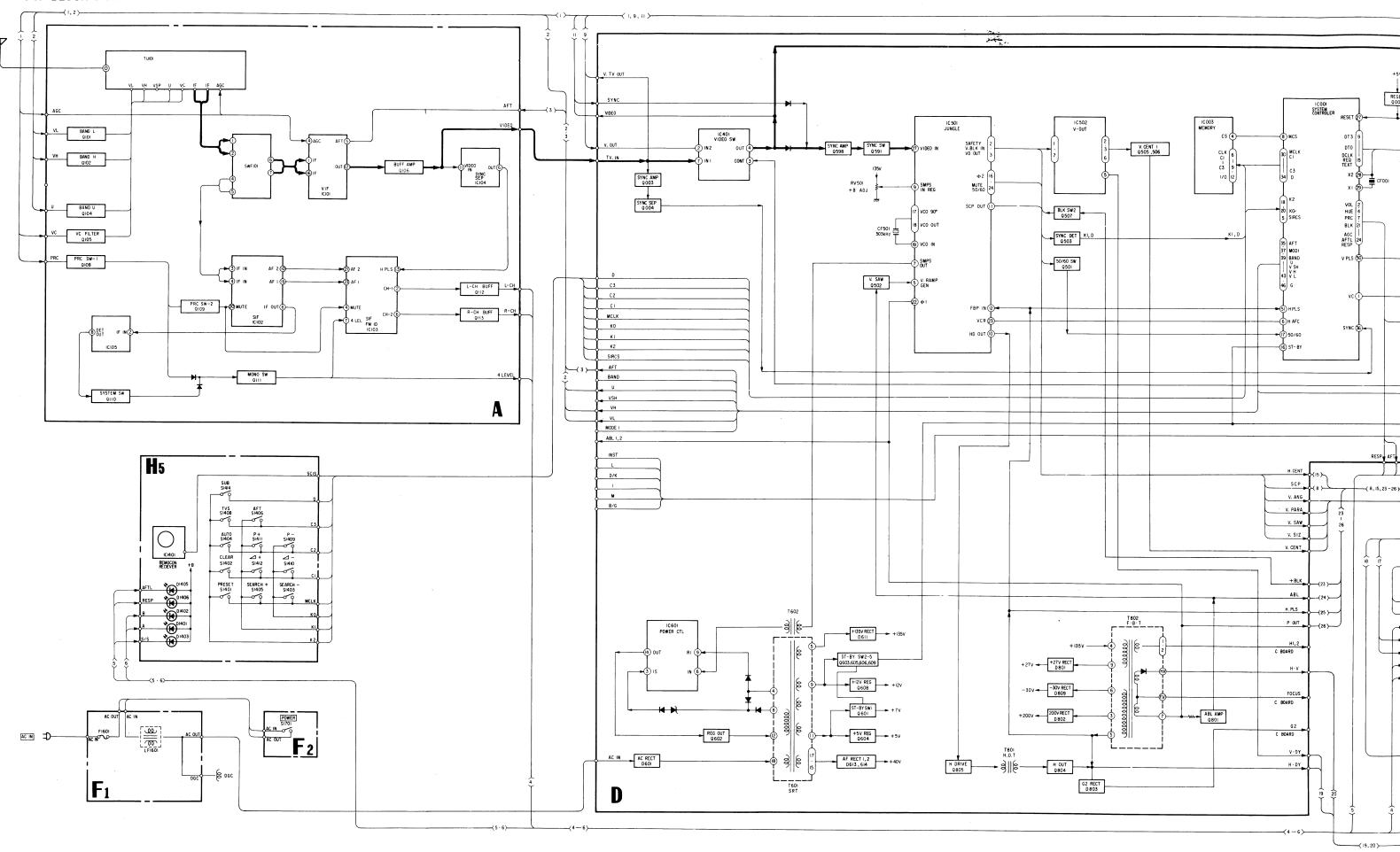
D

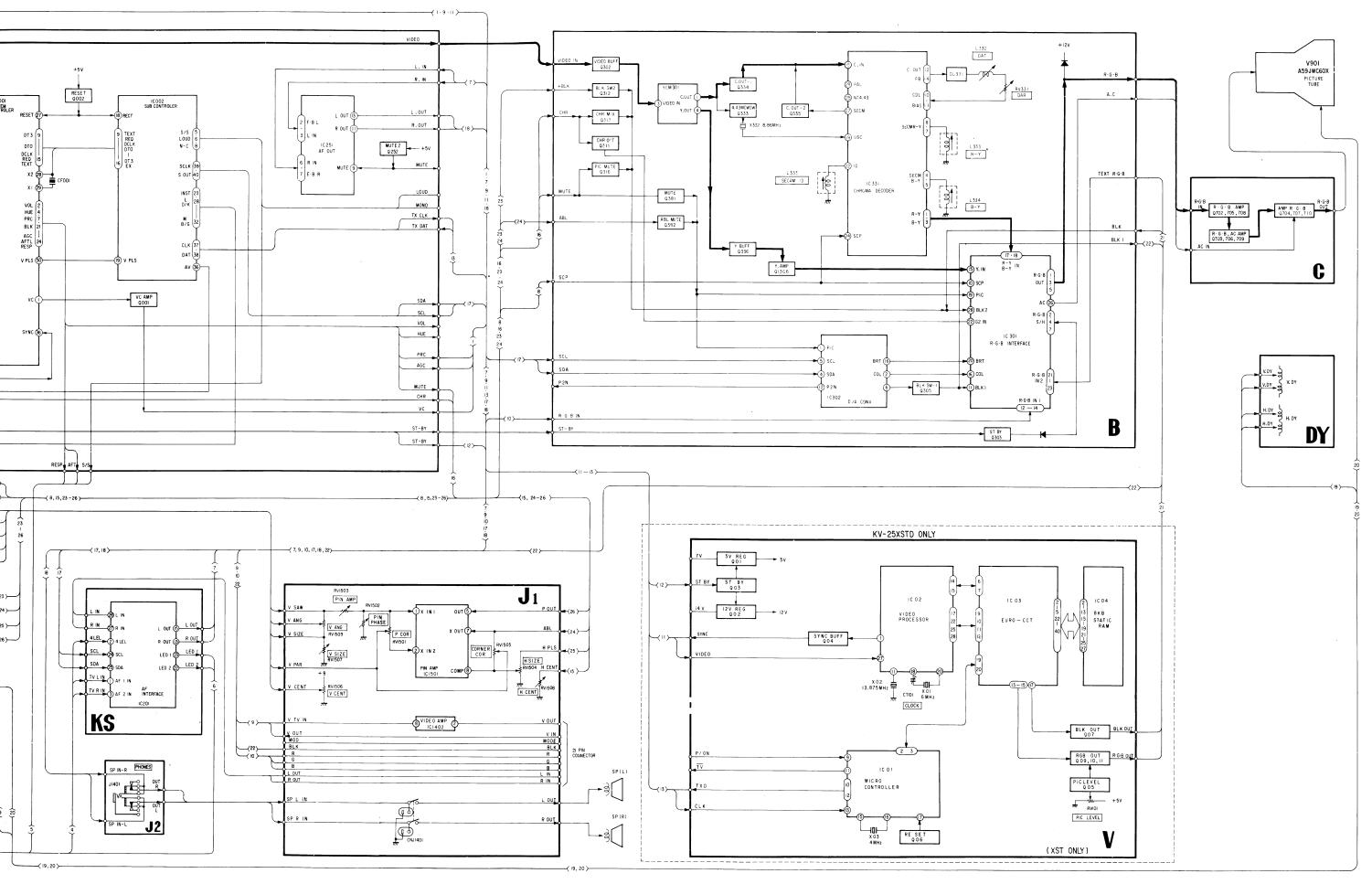
Ε

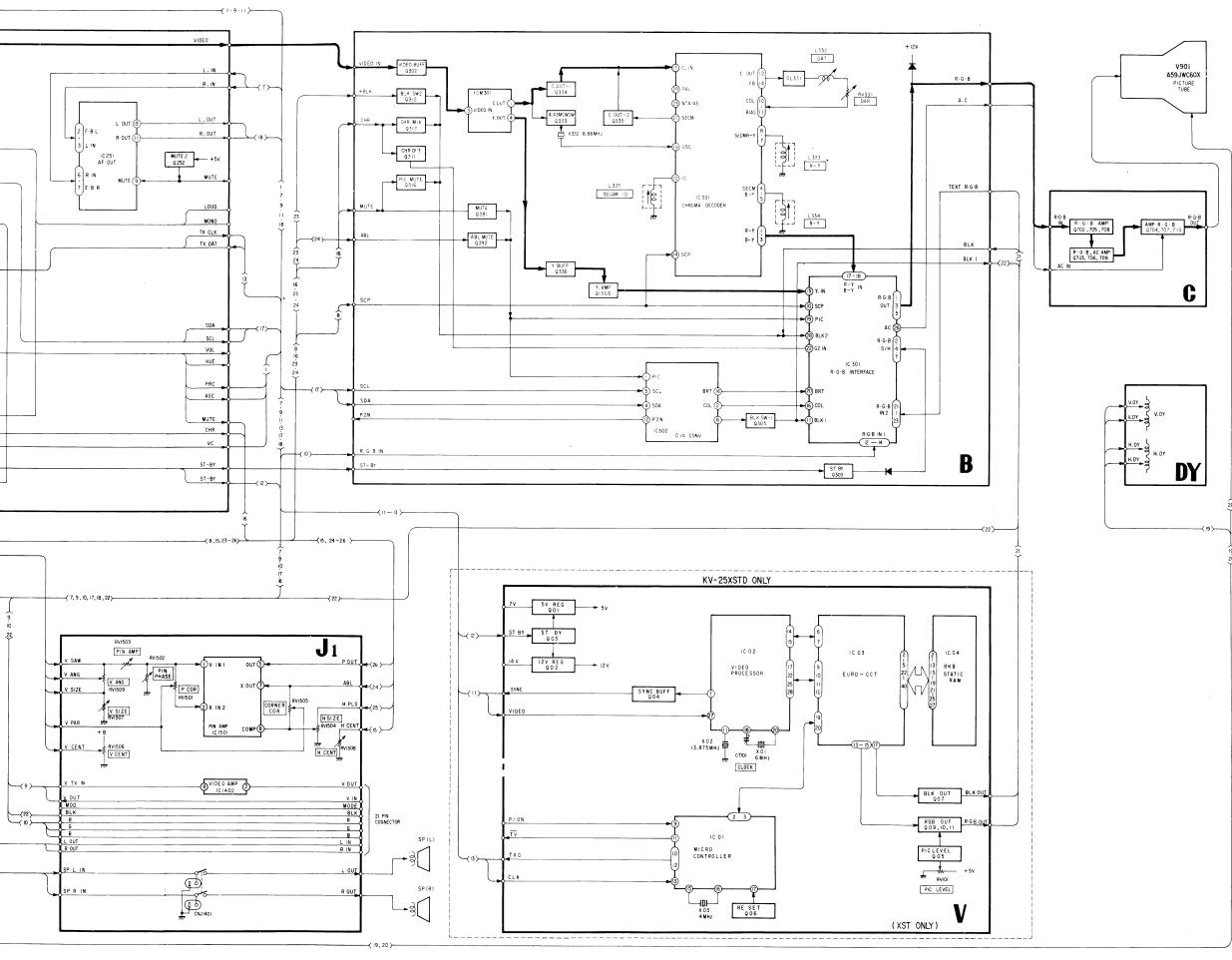
Н











### Note:

- All capacitors are in μF unless otherwise noted. pF: μμF
   50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/4 W unless otherwise noted, k: 1000  $\Omega$ , M: 1000 k $\Omega$
- monflammable resistor.
- fusible resistor.
- △ : internal component.
- \_\_\_\_\_ : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- adjustment for repair.
- Voltage variations may be noted due to normal production tolerances.
- ---- : B+ bus
- m : signal path.

Note: The components identified by shading and mark

A are critical for safety. Replace only with part number specified.

### Reference information

RESISTOR : RN METAL FILM : RC SOLID

: FPRD NONFLAMMABLE CARBON : FUSE NONFLAMMABLE FUSIBLE : RS NONFLAMMABLE WIREWOUNO

: RB NONFLAMMABLE CEMENT

COIL : LF-8L MICRO INDUCTOR

CAPACITOR: TA TANTALUM : PS STYROL

PP POLYPROPYLENE

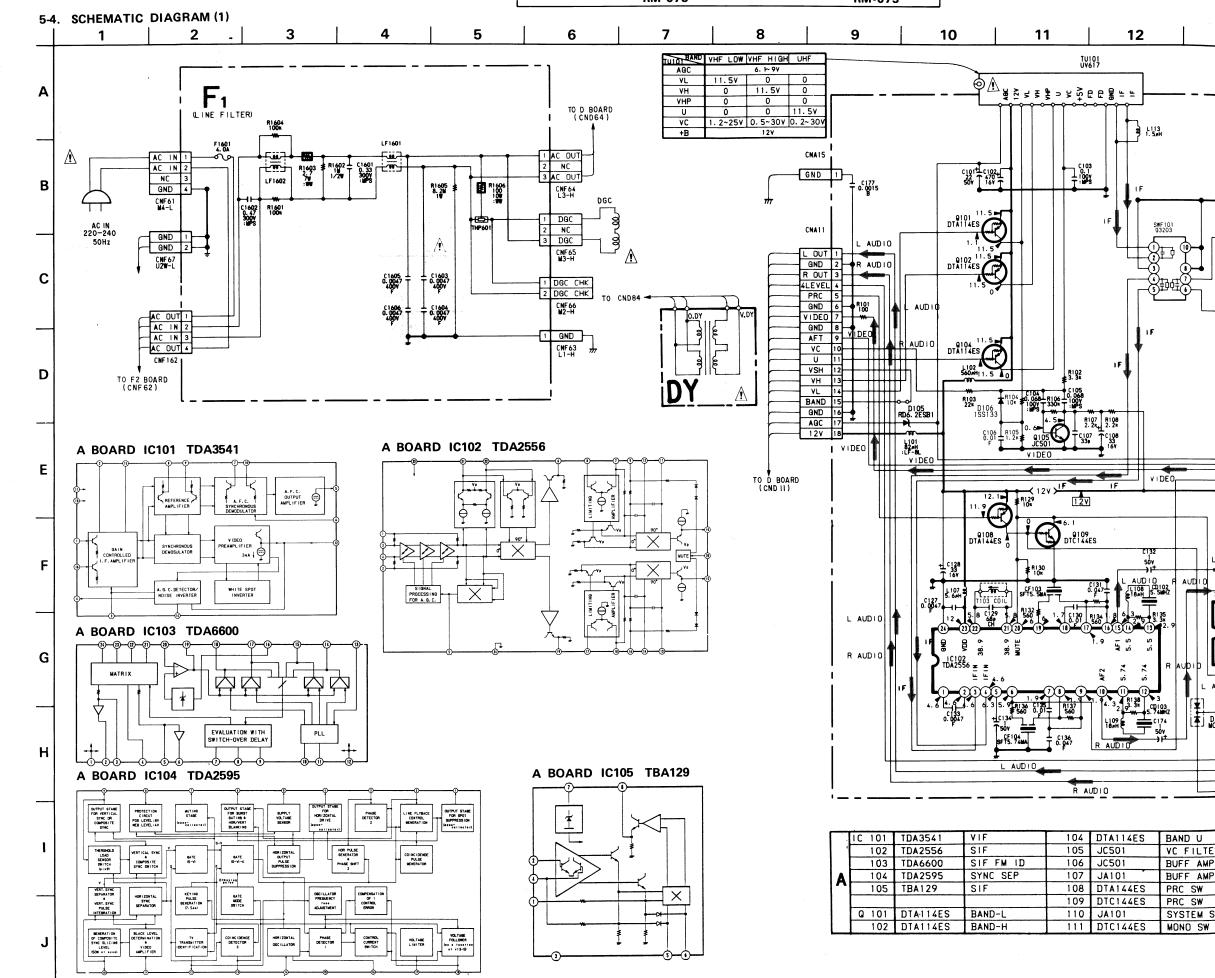
: PT MYLAR

: MPS METALIZED POLYESTER

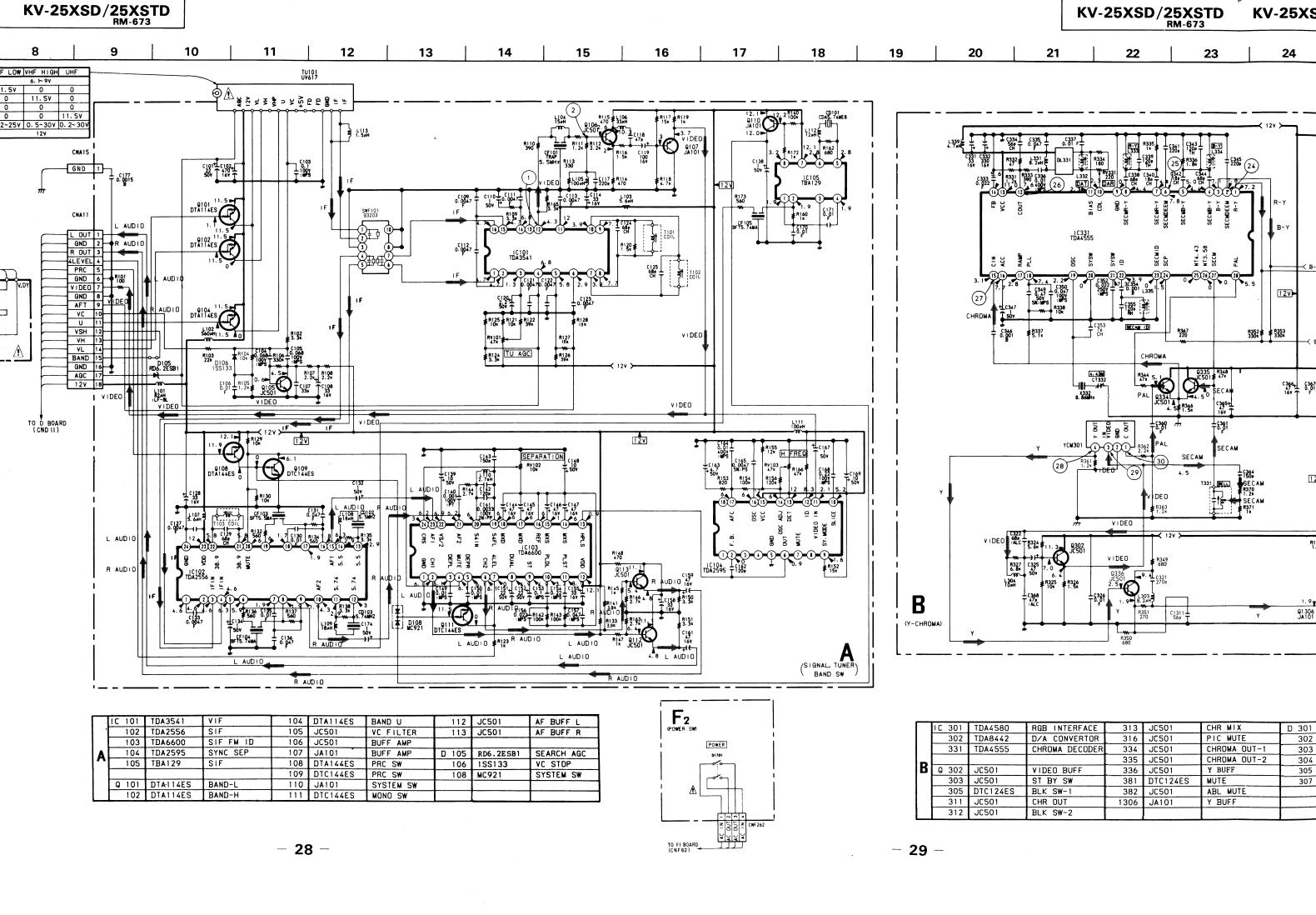
: MPP METALIZED POLYPROPYLENE

: ALB BIPOLAR

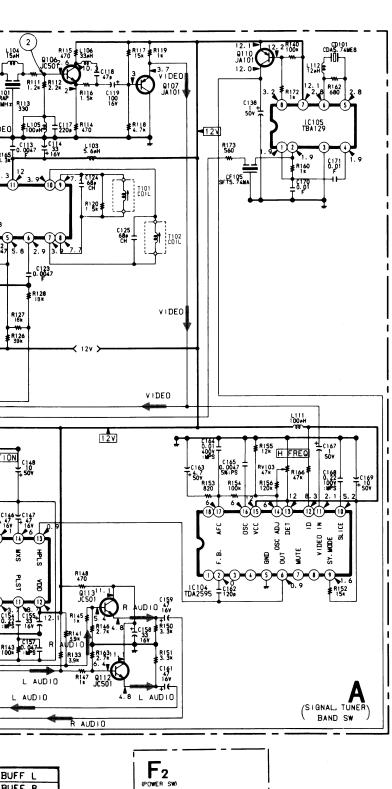
: ALT HIGH TEMPERATUNE : AIR HIGH RIPPLE



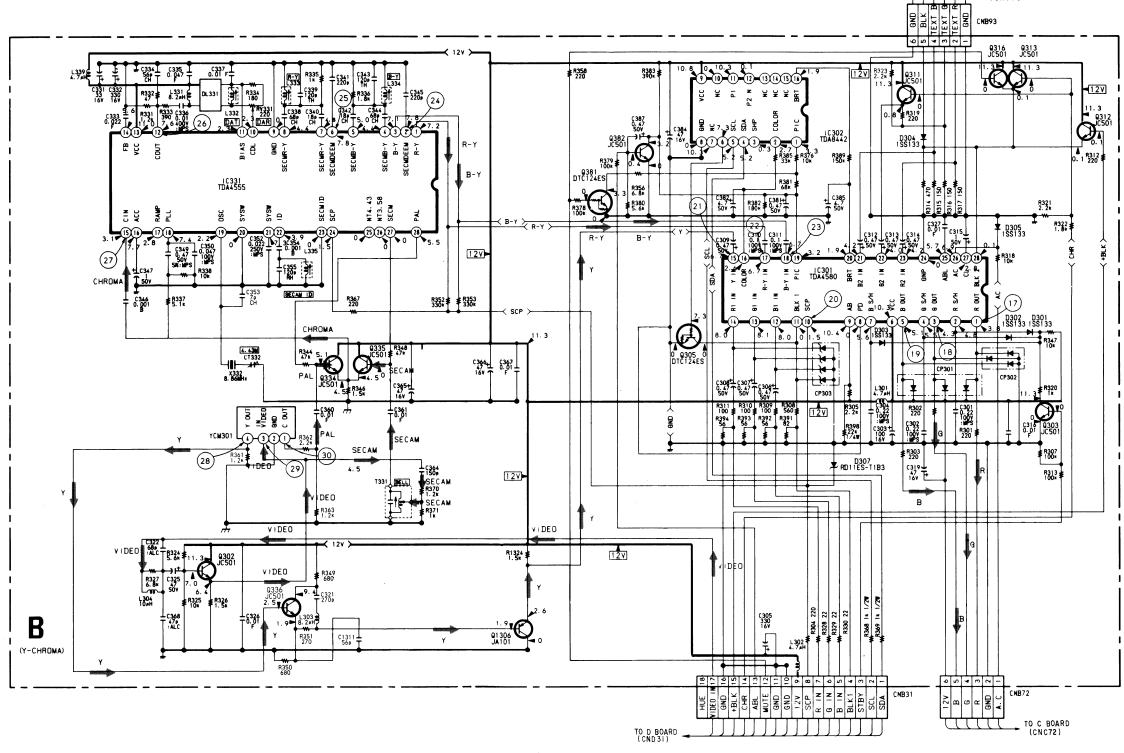
**- 27 -**



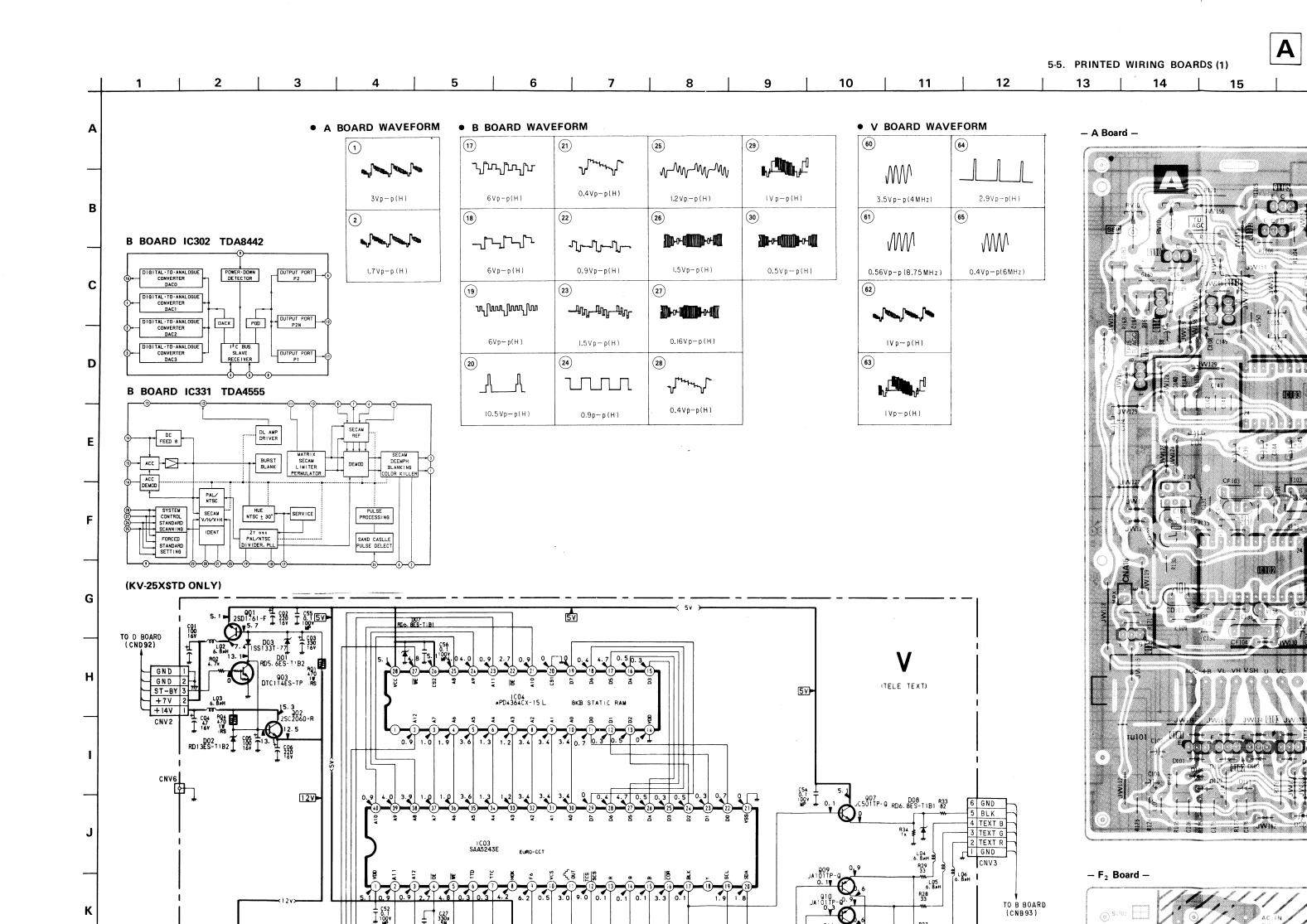
KV-25XSD/25XSTD RM-673 KV-25XSD/25XSTD RM-673 TO V BOARD (CNV3)

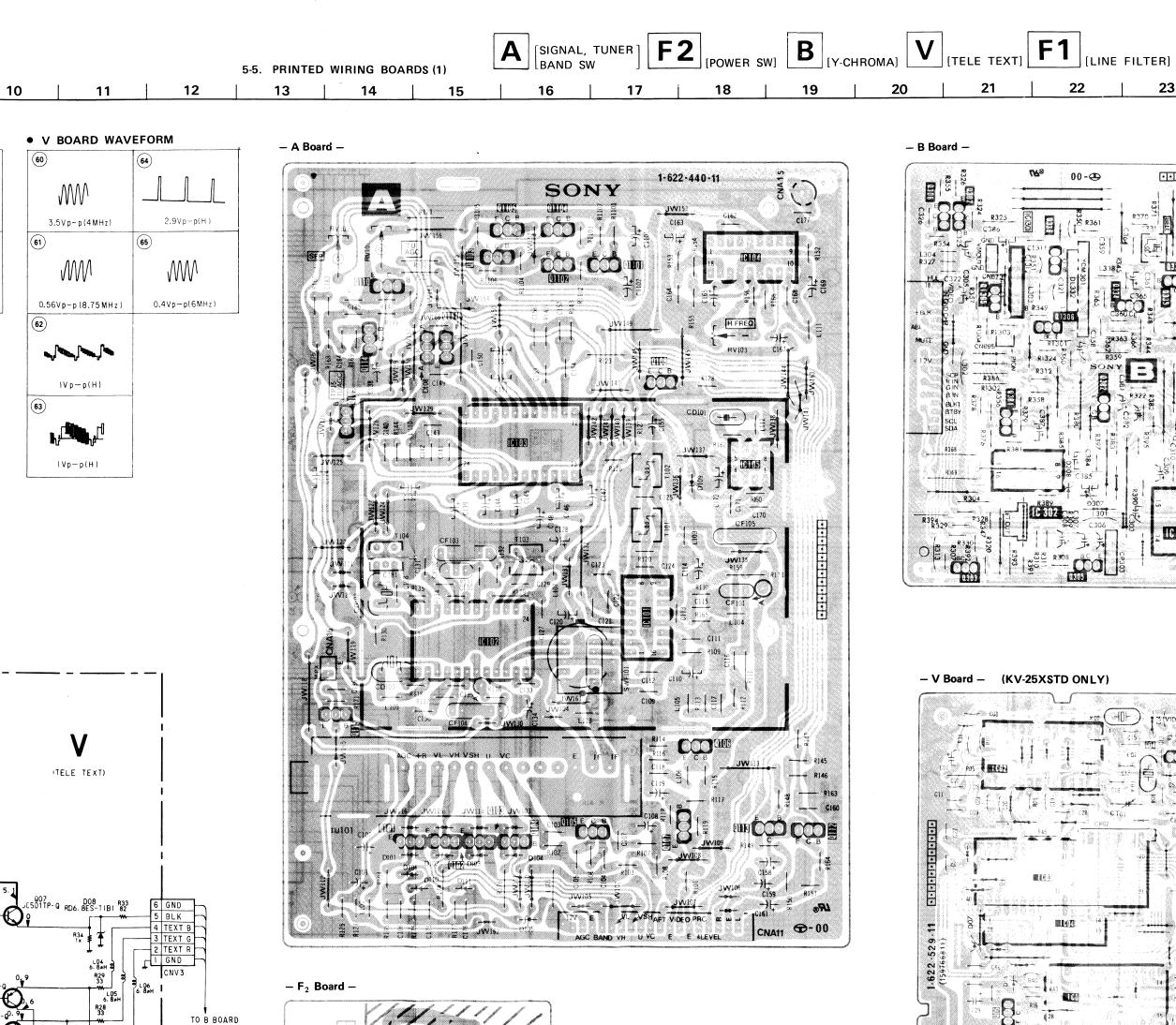


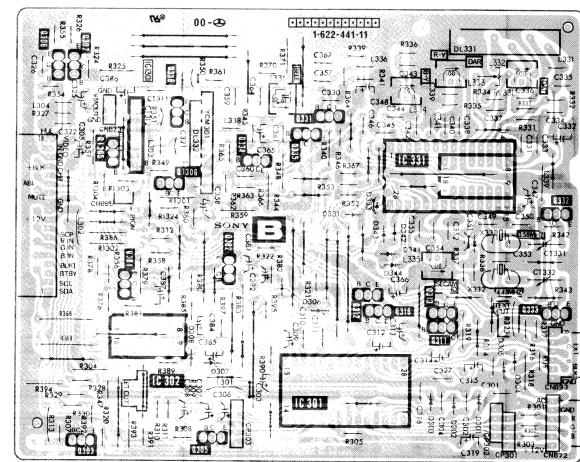
RCH AGC STOP STEM SW



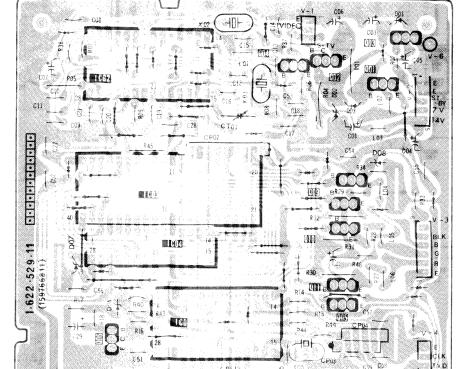
	IC 301	TDA4580	RGB INTERFACE	313	JC501	CHR MIX	D 301	188133	ST BY MUTE-1
	302	TDA8442	D/A CONVERTOR	316	JC501	PIC MUTE	302	1SS133	ST BY MUTE-2
ł	331	TDA4555	CHROMA DECODER	334	JC501	CHROMA OUT-1	303	188133	ST BY MUTE-3
				335	JC501	CHROMA OUT-2	304	188133	BLK SW
B	Q 302	JC501	VIDEO BUFF	336	JC501	Y BUFF	305	188133	ADD
i	303	JC501	ST BY SW	381	DTC124ES	MUTE	307	RD11ES-B3	ADD
i	305	DTC124ES	BLK SW-1	382	JC501	ABL MUTE			
1	311	JC501	CHR OUT	1306	JA101	Y BUFF			
	312	JC501	BLK SW-2						

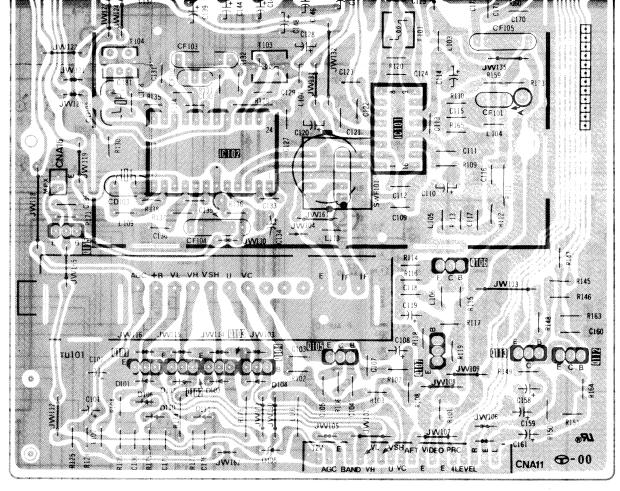


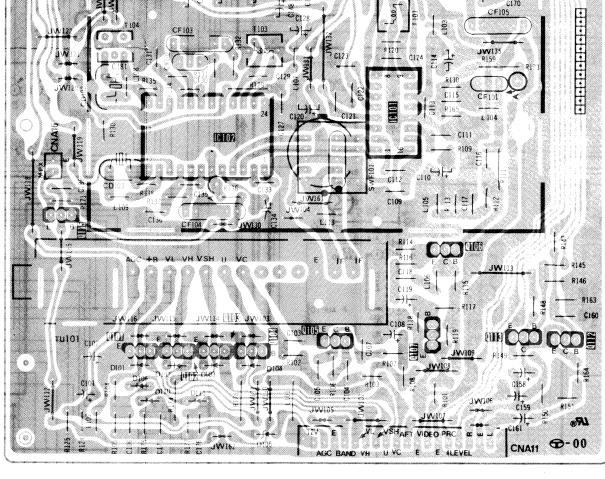


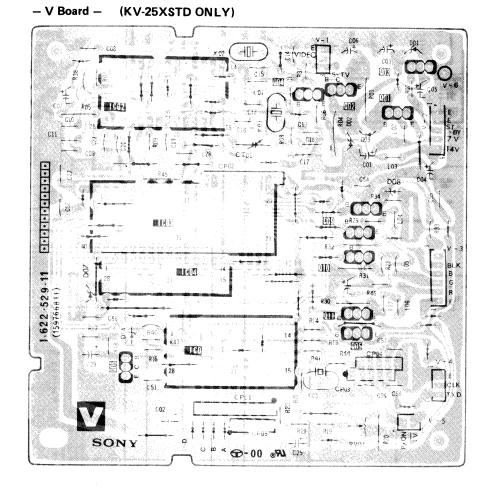








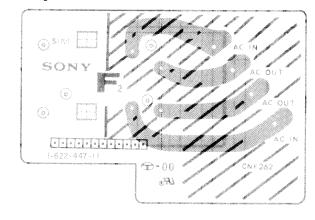




10 301

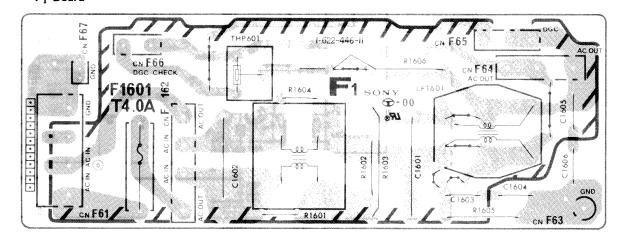
R305

 $-F_2$  Board -



_						
1	IC 01	MAB8461P-W083	MICRO CTL			
1	02	SAA5231	VIDEO PROCESSOR			
	03	SAA5243E	EURO CCT			
04		µPD4364CX-15L	8KB STATIC RAM			
1	Q 01	2SD1761-F	5V REG			
ı	02	2SC2060-R	12V REG			
1	03	DTC114ES	ST BY			
	04	JC501TP	SYNC BUFF			
IV	05	2SC2060-R	PIC LEVEL			
•	06	JC501TP	RESET			
	07 JC501TP 09 JA101TP 10 JA101TP		BLK DUT			
1			B OUT			
1			G OUT			
1	11	JA101TP	R OUT			
1						
	D 01	RD5.6ES-B2	5V REG			
1	02 RD13ES-B2 03 ISS133 04 RD3.6ES-B2		12V REG			
			ST BY			
1			RESET			
1	07	RD6.8ES-B1	PROTECT-1			
	· 08	RD6.8ES-B1	PROTECT-2			

- F<sub>1</sub> Board -



V

(TELE TEXT)

Q07 D08 RD6. BES-TIB1 82

R29 33 W L05 6.8 pH R28 33

5V

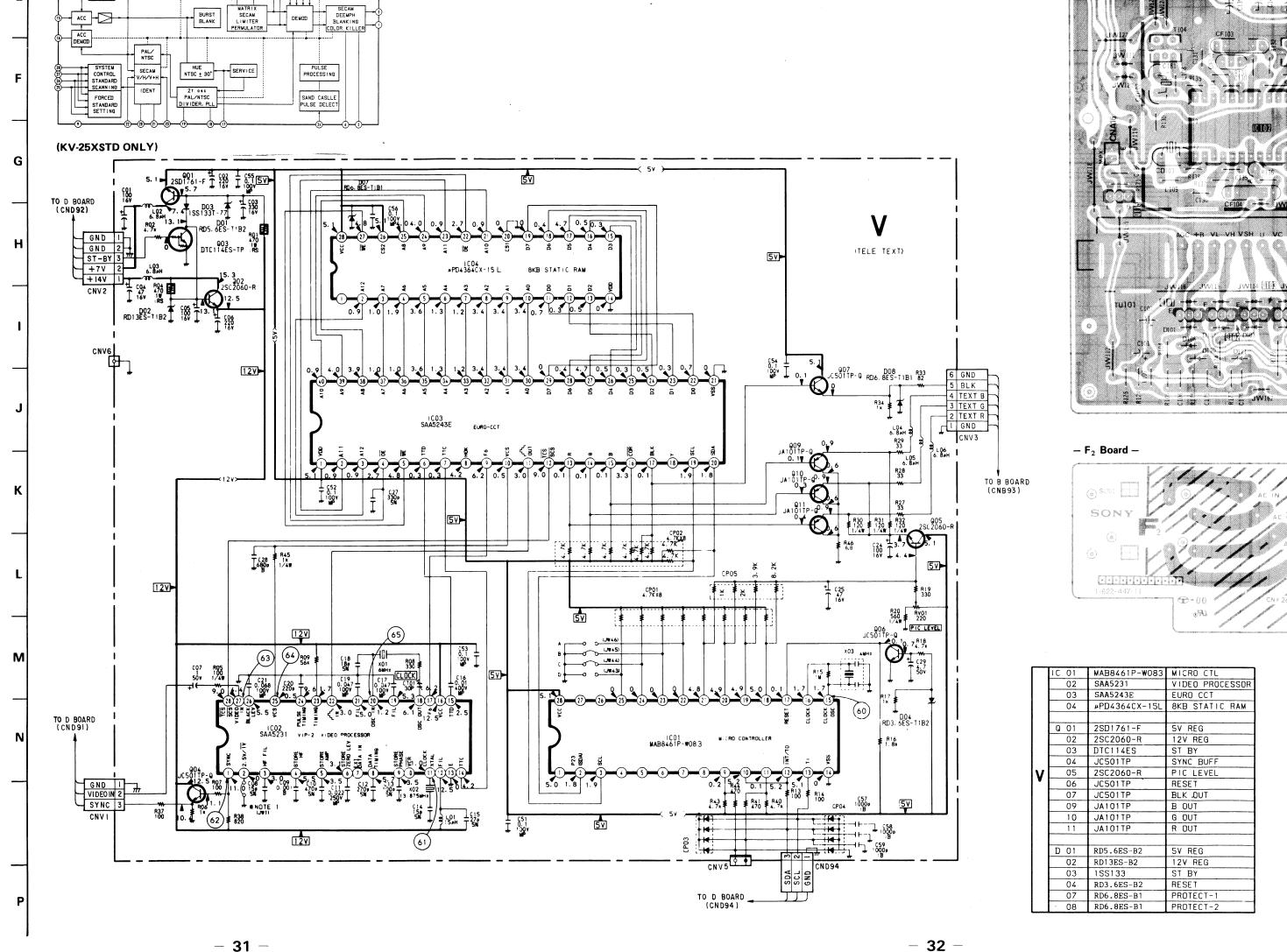
D04 RD3. 5ES-T1B2

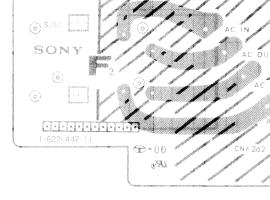
₹ R16

6 GND

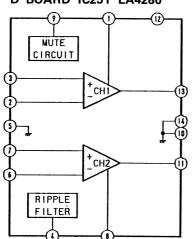
3 TEXT G 2 TEXT R 1 GND

TO B BOARD (CNB93)

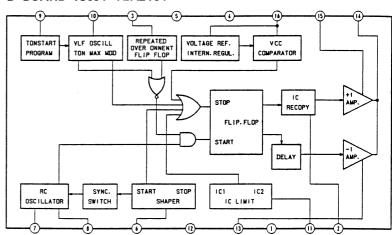




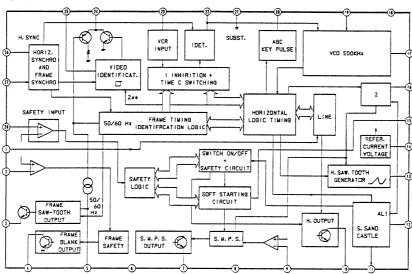
### **D BOARD IC251 LA4280**



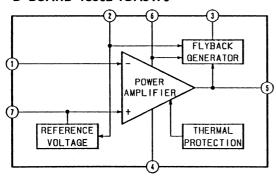
### D BOARD IC601 TEA2164

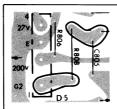


### D BOARD IC501 TEA2028A



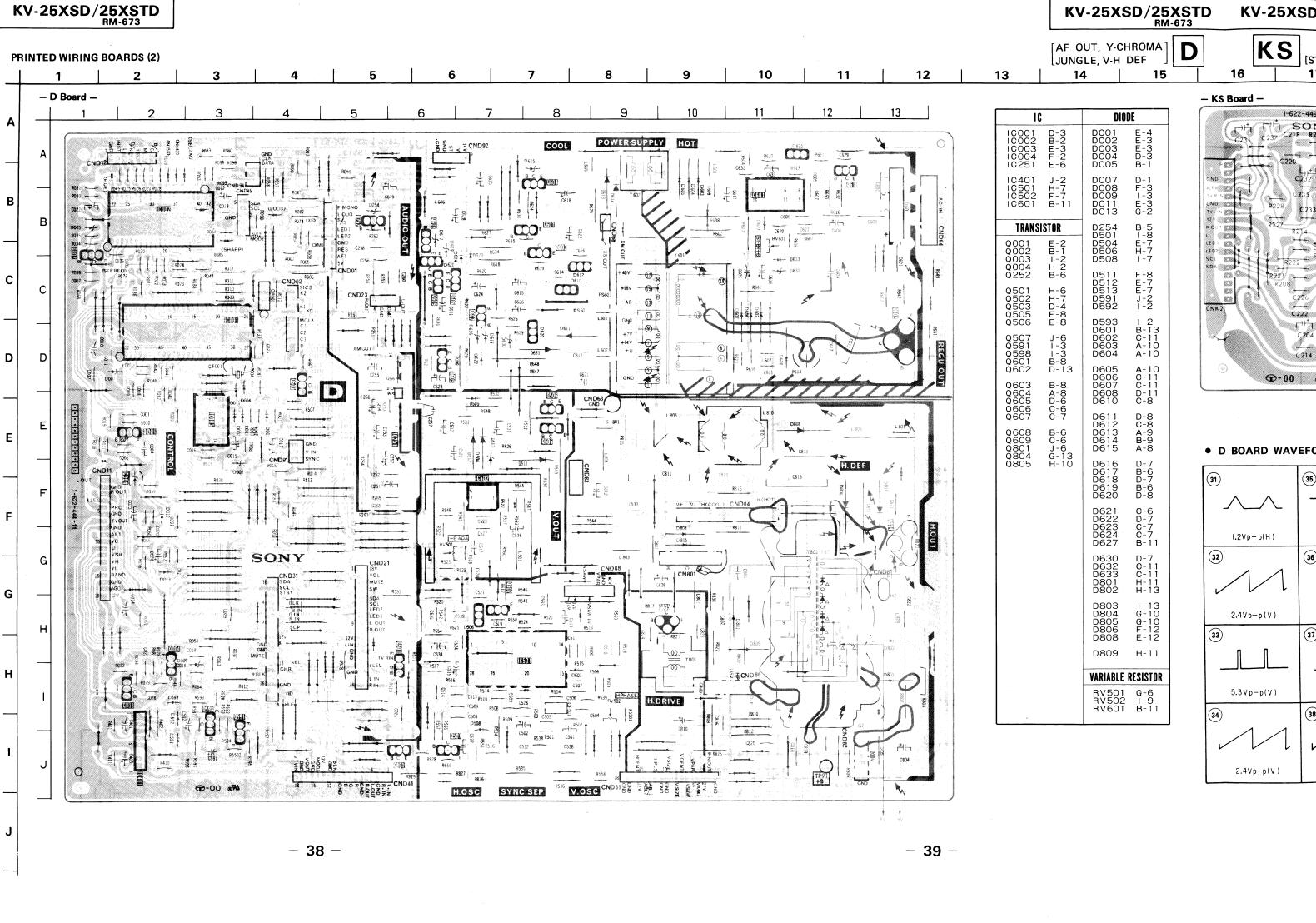
### **D BOARD IC502 TDA8170**



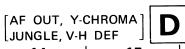


### NOTE:

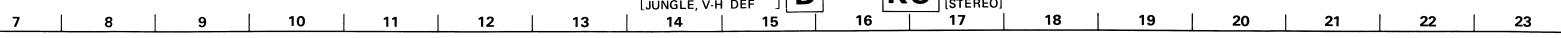
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

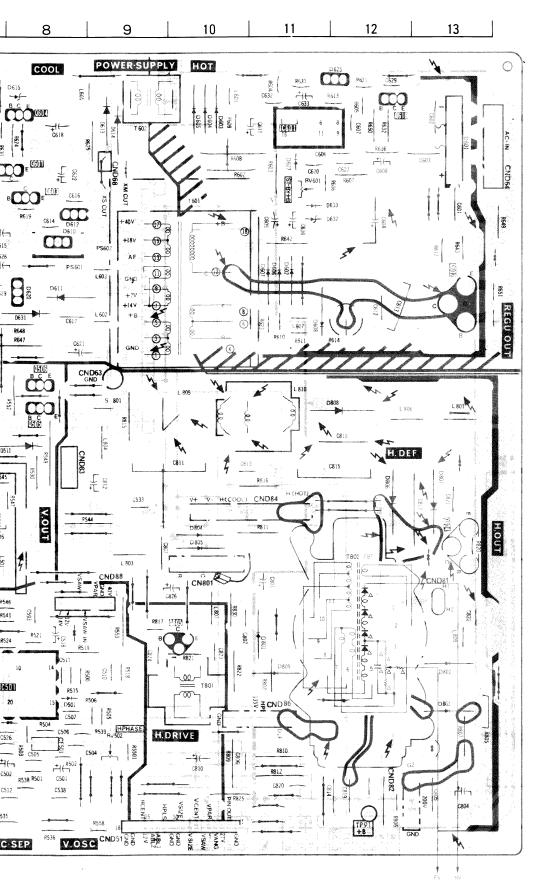


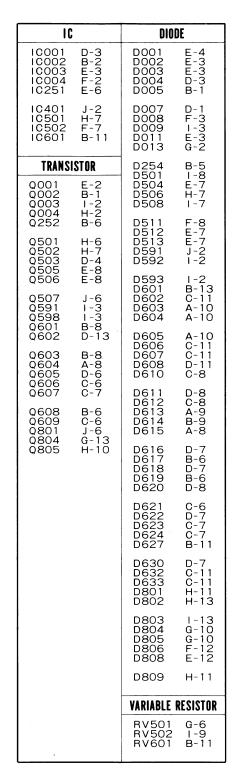


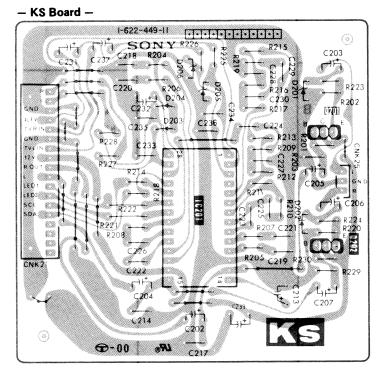


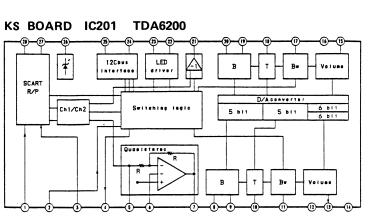




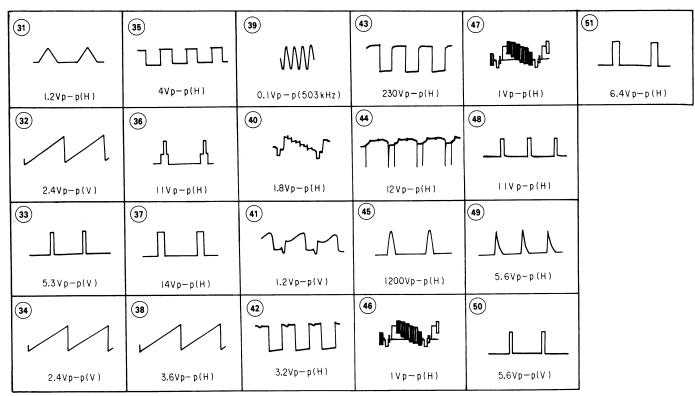


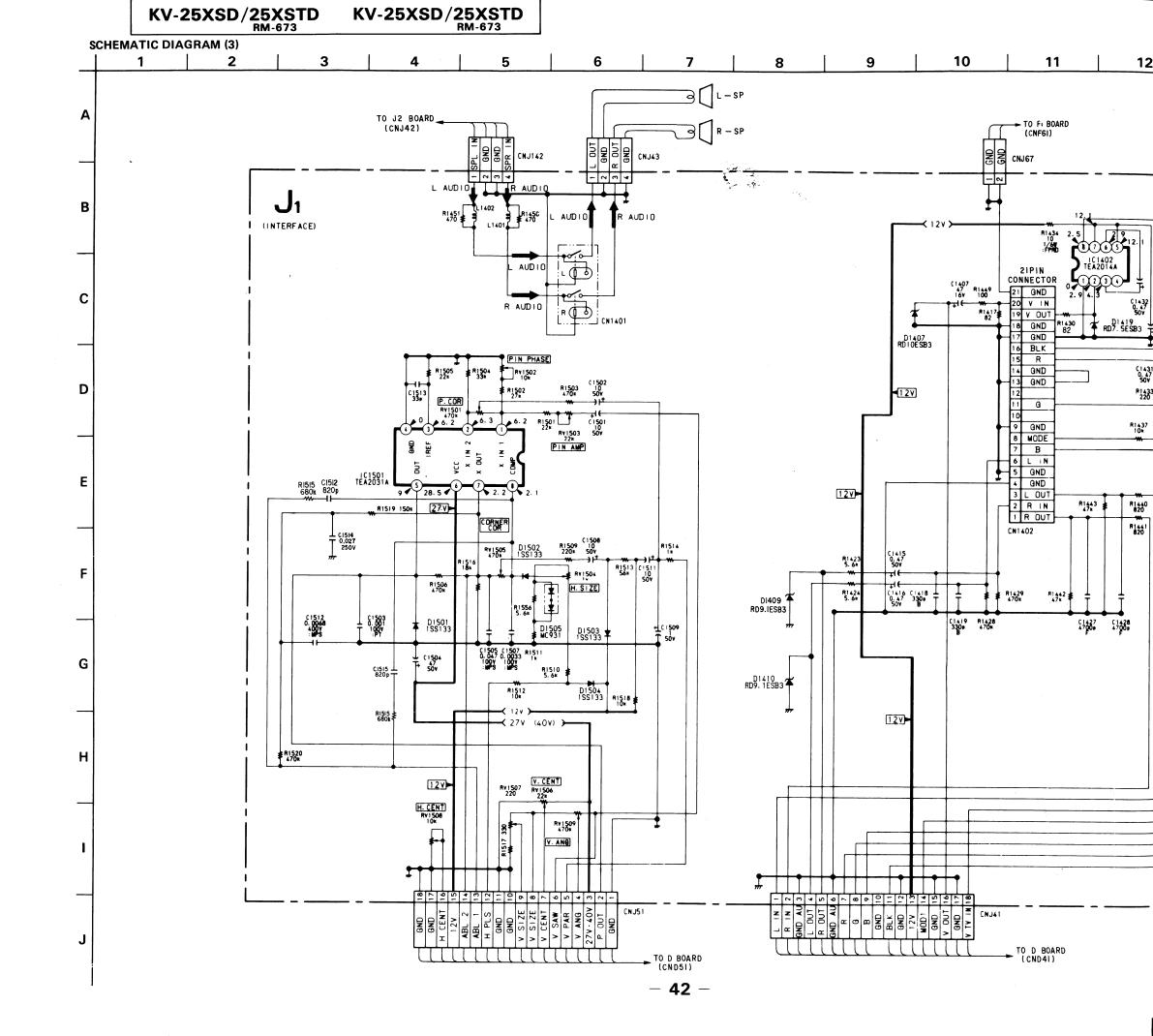


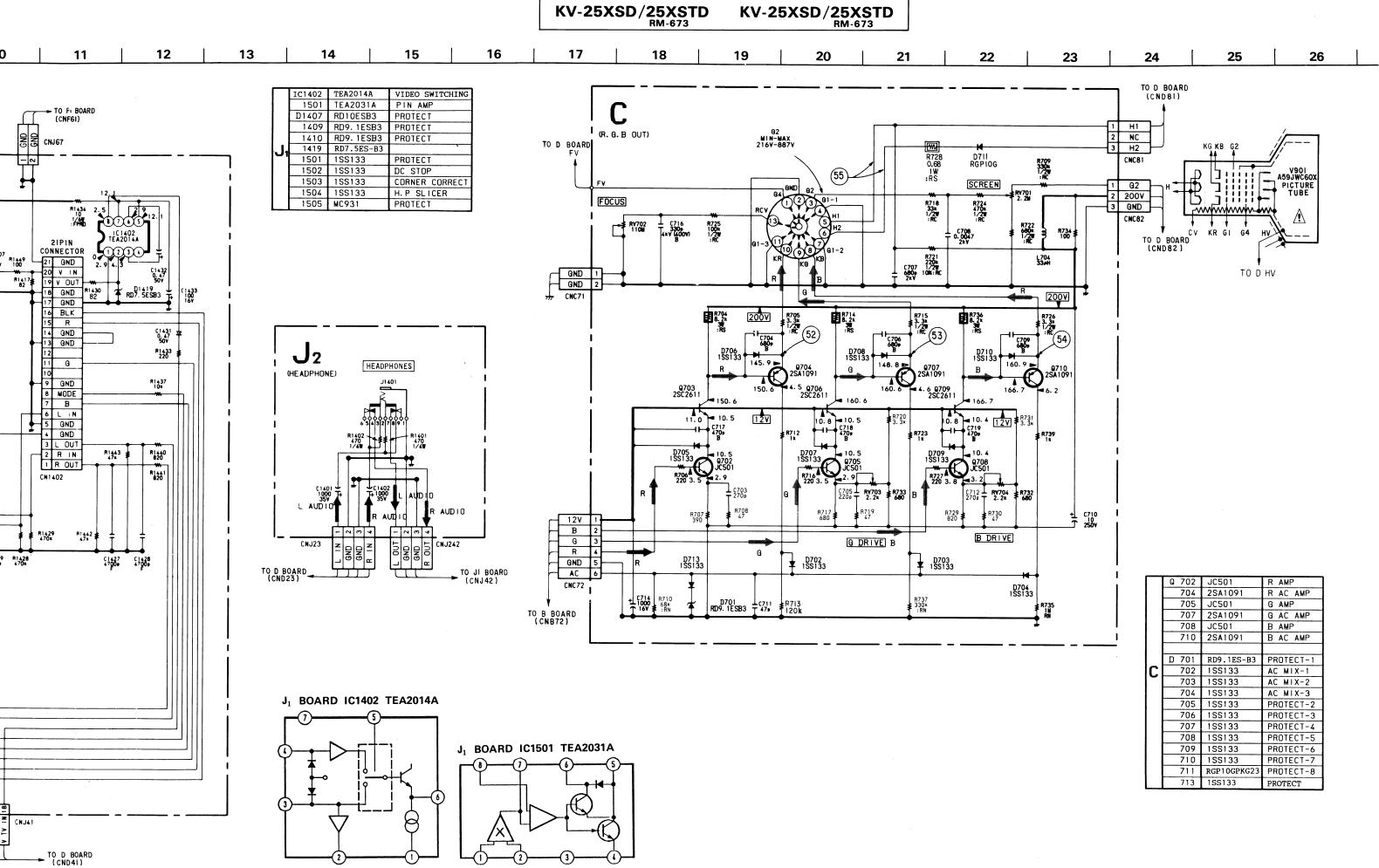


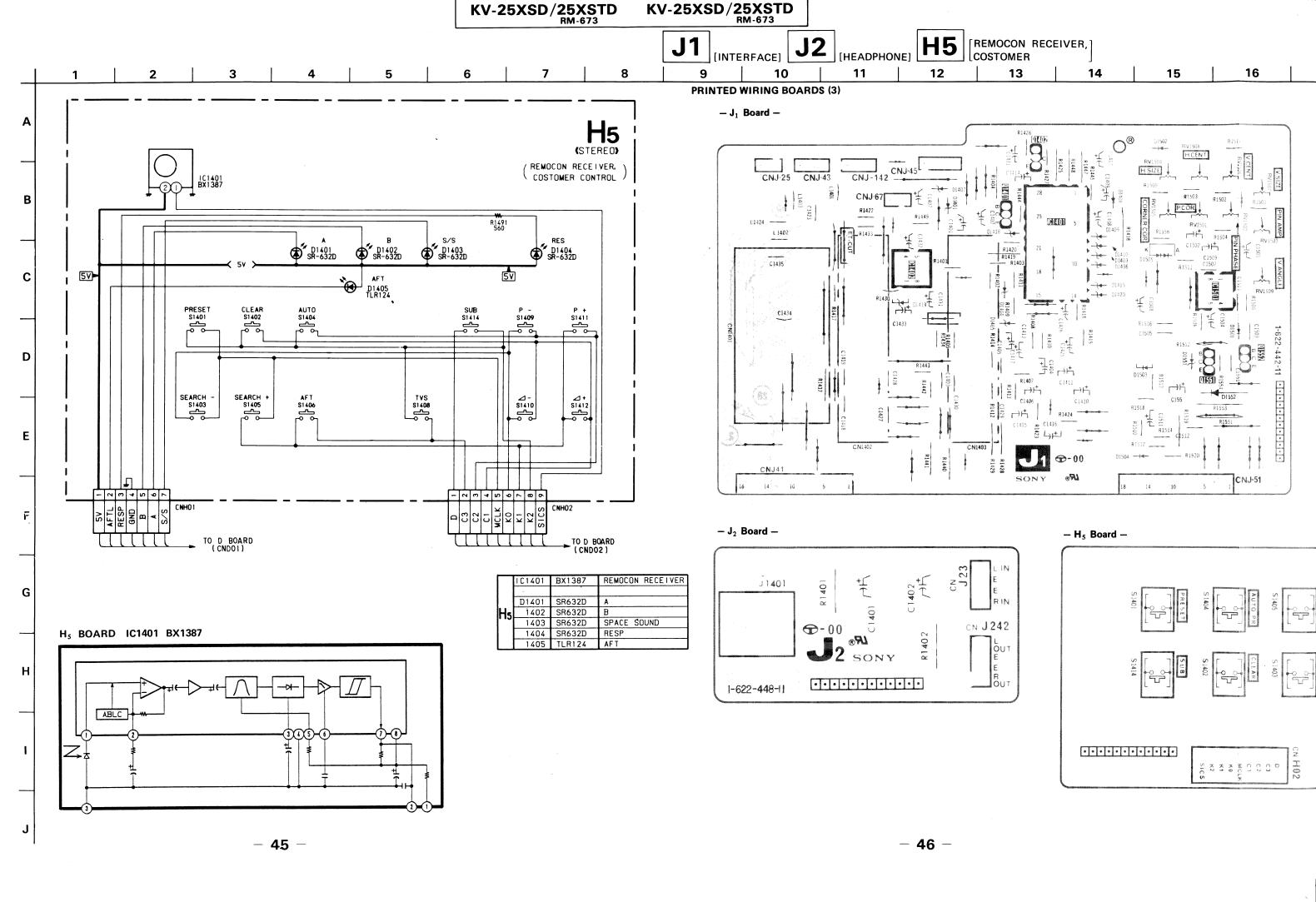


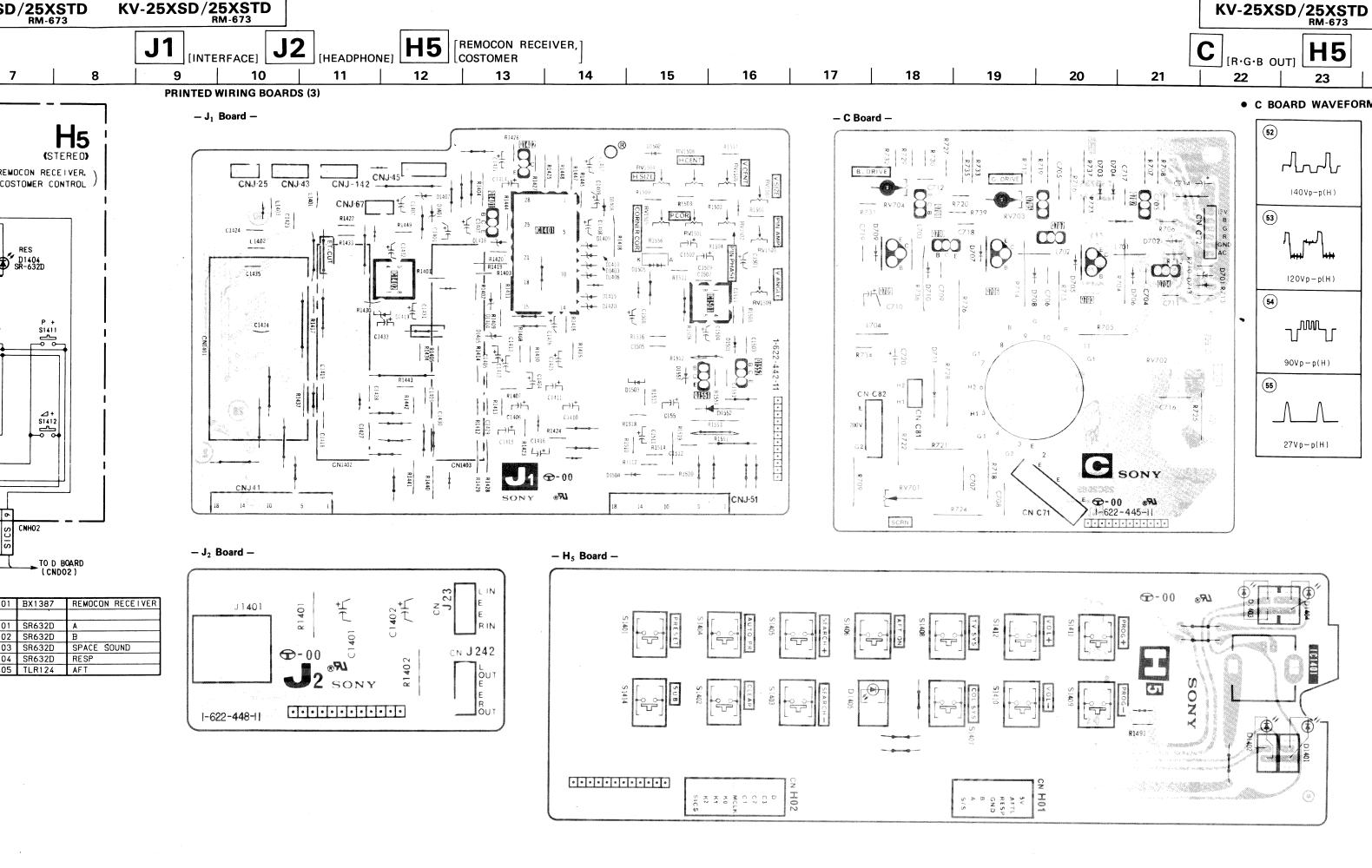
### • D BOARD WAVEFORM











#### 5-6. SEMICONDUCTORS

#### BX-1387 TDA2595 2SA1175 **ISS119** KBU-4J **ISS133** 2SC2785 **ISS148** 0 HZS39NB4TD RD3.6ES-B2 م م م م م م م م م م RD3,9ES-B1 **RD4.7ES-B1** TDA3541 RD5.6ES-B2 CX20061 TDA8442 RD6.2ES-B2 **TEA2162A** 2SB734 RD6.8ES-B2 MC921 16 1514131211 10 9 2SD774 **RD7.5ES-B3** JYYYYYYY **RD9.1ES-B3** RD10ES-B3 12345678 RD15ES-B1 LA4280 RD39ES-B4 TDA8170 2SB740 2SC1475 2SD789 MC931 M50436-614SP TBA129 0 **TEA2031A** IS1555 **ISS168** TOP VIEW **ISS238** 2SB1185 1 2 3 4 (Too view) M58655P 10E2 2SD1761 ES1F ERD28-06S صممممم μPC574J SE303AY GP08DPKG23 RGP01-17PKG23 RGP10GPKG23 MAB8461P-W083 TDA4555 2SC2611 TDA4580 2SC2688 TDA6200 TDA6600 2SA933 **TEA2028A** SR632D 2SA1091 SAA5231 JA101TP **CTU-12S** μPD4364CX015L JC501TP 2SD1548 **TLR124** MB88503H-565G 2SA1048 ERC06-15S 2SA1115 ERC24-06S 2SC1740SRT ERC25-06S 2SC2458 ERD29-08J (Top view) 2SC2603 2SD1941 SAA5243E DTA124ES V19E DTA144ES DTC114ES DTC124ES (Top view) DTC144ES TDA2556

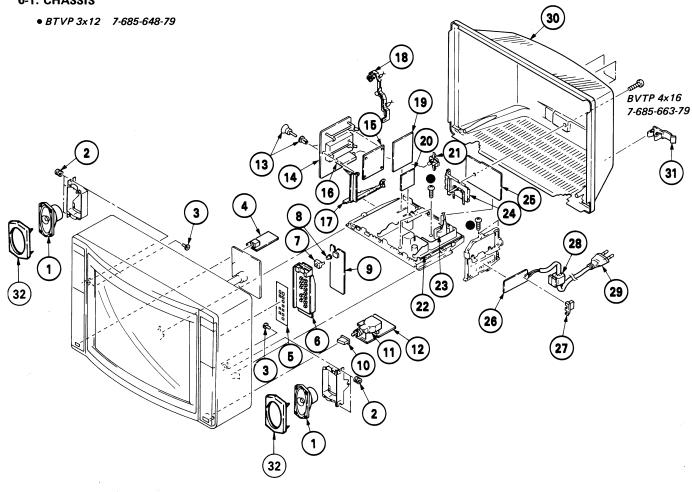
## SECTION 6 EXPLODED VIEWS

#### NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

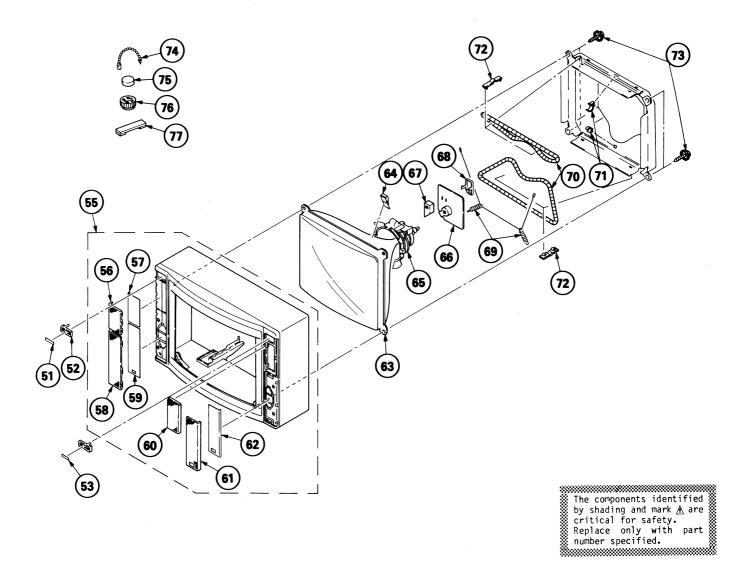
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

### 6-1. CHASSIS



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1 2 3 4 5 6 7 8 9	1-503-642-11 *4-381-536-01 4-373-234-01 *1-622-448-11 *4-385-917-01 *4-381-686-01 *4-374-987-01 *1-622-534-11 4-385-919-01	SPEAKER RUBBER (B) CLIP J2 BOARD LABEL, CONTROL PANEL, CONTROL BRACKET (B), BAR, OPTICAL GUIDE, LIGHT H5 BOARD BUTTON, POWER (KV-25XSD ONLY)	Remark	NO.   17	*4-386-629-01 *4-386-628-01 *A-1135-455-A *1-622-449-11 *4-386-617-01 *A-1345-720-A \$\( \blue{\Lambda} \). 1-439-416-11 *4-386-624-01 *A-1371-335-A	BRACKET, A SUPPORTER, PC BOARD B BOARD, COMPLETE KS BOARD HOLDER, TERMINAL D BOARD, COMPLETE TRANSFORMER ASSY, FLYBACK BRACKET, J JI BOARD, COMPLETE	Remark
12 13 14	<b>1.</b> 1-554-762-51 *1-622-447-11 4-386-618-01 *A-1296-317-A *A-1347-014-A	BUTTON, POWER (KV-25XSTD ONLY) SWITCH, PUSH (AC POWER) (1 KEY) F2 BOARD RIVET, T TYPE A BOARD, COMPLETE V BOARD, COMPLETE V BOARD, COMPLETE (KV-25XSTD ONL TUNER, ET (UV-617)	Υ)	27   28   29   30   31   32	*4-386-620-01 <b>1</b> .4-022-115-01 <b>1</b> .1-559-346-11 4-385-932-01 4-329-127-00	COVER, POWER HOLDER, AC CORD CORD, POWER (WITH CONNECTOR) COVER, REAR	

#### 6-2. PICTURE TUBE



No.	Part No.	Description	Remark	No.	Part No.	<u>Description</u> <u>Re</u>	emark
51	4-385-911-01	WINDOW (A), ORNAMENTAL		62	*4-385-914-01	CUSHION (D)	
52	X-4385-901-1	PLATE (A) ÁSSY		63	▲.8-733-224-05	PICTURE TUBE (A59JWC60X)	
53	X-4385-916-1	WINDOW (B) ASSY, ORNAMENTAL (KV-25XS	SD ONLY)	64	3-703-961-01	SPACER, DY	
	X-4385-916-2	WINDOW (B) ASSY, ORNAMENTAL		65	▲.1-451-311-21	DEFLECTION YOKE (SY-178)	
		(KV-25XSTI	ONLY)	66	*A-1330-814-A	C BOARD, COMPLETE	
55	X-4385-903-1	CABINET ASSY (FOR SILVER)	56-62	67	*4-379-167-01	COVER (MAIN), CV	
	X-4385-903-2	CABINET ASSY (FOR BLACK)	56-62	68	*4-379-160-01	COVER (REAR LID), CV	
56	4-385-921-01	PLATE (A), ORNAMENTAL (FOR SILVER	)	69	4-303-774-XX	SPRING	
	4-385-921-11	PLATE (A), ORNAMENTAL (FOR BLACK)		70	▲.1-426-325-11	COIL, DEMAGNETIZATION	4.00
57	<b>* 4-385-912-01</b>	CUSHION (AB)		71		STOPPER, WIRE	
58	4-385-923-01	PLATE (C), ORNAMENTAL (FOR SILVER	)		*4-385-916-01	HOLDER (D)	
	4-385-923-11	PLATE (C), ORNAMENTAL (FOR BLACK)		73	4-373-263-01	SCREW (M), PT	
59	*4-385-913-01	CUSHION (C)		74	4-308-870-00	CLIP, LEAD WIRE	
60	X-4385-902-1	DOOR ASSY (FOR SILVER)		75	1-452-032-00	MAGNET, DISK; 10MM Ø	
	X-4385-902-2	DOOR ASSY (FOR BLACK)		76	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ₡	
61	4-385-924-01	PLATE (D), ORNAMENTAL (FOR SILVER	)	77	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	
	4-385-924-11	PLATE (D), ORNAMENTAL (FOR BLACK)		ı		•	
				İ			



Ref.N	o. Part No.	Description				Remark	Ref.No.	Part No.	Description				Remark
Q316 Q334 Q335 Q336 Q381	8-729-178-54 8-729-178-54 8-729-178-54 8-729-178-54 8-729-900-36	TRANSISTOR 2SC TRANSISTOR 2SC TRANSISTOR 2SC TRANSISTOR 2SC TRANSISTOR DTC	2785 2785 2785				R352   R353   R356   R357   R358	1-247-891-00 1-247-891-00 1-249-427-11 1-249-409-11 1-249-409-11	CARBON CARBON CARBON CARBON CARBON	330K 330K 6.8K 220 220	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
Q382 Q1306	8-729-178-54 5 8-729-117-54	TRANSISTOR 2SC TRANSISTOR 2SA					   R361   R362	1-249-418-11 1-249-421-11	CARBON CARBON	1.2K 2.2K	5% 5%	1/4W 1/4W	
	RES	ISTOR					R363 R367	1-249-418-11 1-249-409-11	CARBON CARBON	1.2K 220	5% 5%	1/4W 1/4W	
R301 R302 R303 R304 R305	1-249-409-11 1-249-409-11 1-249-409-11 1-249-409-11 1-249-421-11	CARBON CARBON CARBON	220 220 220	5% 1 5% 1 5% 1	/4W /4W /4W /4W /4W		R368     R369   R370   R371   R376	1-247-752-11 1-247-752-11 1-249-418-11 1-249-417-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON CARBON	1K 1K 1.2K 1K 1OK	5% 5% 5% 5%	1/2W 1/2W 1/4W 1/4W 1/4W	
R307 R308 R309 R310 R311	1-249-441-11 1-249-414-11 1-249-405-11 1-249-405-11 1-249-405-11	CARBON CARBON CARBON	560 100 100	5% 1 5% 1 5% 1	/4W /4W /4W /4W /4W		R378     R379   R380   R381   R382   R383	1-249-441-11 1-247-849-00 1-249-439-11 1-247-885-00 1-215-483-00	CARBON CARBON CARBON CARBON CARBON CARBON CARBON	100K 100K 5.6K 68K 180K 390K	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W 1/4W	
R312 R313 R314 R315 R316	1-249-409-11 1-249-441-11 1-249-413-11 1-249-407-11 1-249-407-11	CARBON CARBON CARBON	100K 470 150	5% 1, 5% 1, 5% 1,	/4W /4W /4W /4W /4W	1	R385 R389 R391 R392 R393	1-249-435-11 1-247-883-00 1-247-805-00 1-249-402-11 1-249-402-11	CARBON CARBON CARBON CARBON CARBON	33K 150K 82 56 56	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	,
R317 R318 R319 R320 R321	1-249-407-11 1-249-429-11 1-249-409-11 1-249-417-11 1-249-421-11	CARBON CARBON CARBON	10K 5 220 5 1K 5	5% 1, 5% 1, 5% 1,	/4W /4W /4W /4W /4W		R394 R398	1-249-402-11 1-249-433-11 1-249-419-11	CARBON CARBON CARBON	56 22K 1.5K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R322 R323 R324 R325 R326	1-249-420-11 1-249-421-11 1-247-849-00 1-249-429-11 1-249-419-11	CARBON CARBON CARBON	2.2K 5 5.6K 5 10K 5	5% 1, 5% 1, 5% 1,	/4W /4W /4W /4W		RV 331	1-230-504-11	IABLE RESISTOR RES, ADJ, CAR NSFORMER	BON 22	0		
R327 R328 R329 R330 R331	1-249-427-11 1-249-397-11 1-249-397-11 1-249-397-11 1-249-418-11	CARBON CARBON CARBON	22 5 22 5 22 5	5% 1/ 5% 1/ 5% 1/	/4W /4W /4W /4W /4W				COIL STAL OSCILLATOR, C	RYSTAL			
R332 R333 R334 R335 R336	1-249-401-11 1-249-412-11 1-249-408-11 1-249-417-11 1-249-420-11	CARBON CARBON I	390 5 180 5 1K 5	5% 1/ 5% 1/ 5% 1/	/4W /4W /4W /4W /4W	     	*****	1-235-753-21	******	*****	****	******	******
R337 R338 R344 R346 R347	1-215-438-00 1-249-429-11 1-249-437-11 1-249-419-11 1-249-429-11	CARBON 1 CARBON 2 CARBON 1	17K 5 L.5K 5	5% 1/ 5% 1/ 5% 1/	/4W /4W /4W /4W /4W	       		1-622-447-11 <u>CONN</u> 1-506-347-21	*******				
R348 R349 R350 R351	1-249-437-11 1-249-415-11 1-249-415-11 1-249-410-11	CARBON 6	580 5 580 5	5% 1/ 5% 1/	'4W '4W '4W '4W	     		SWIT		AC POW	ER)(1	KEY)	n <sup>M</sup> arij

The components identified by shading and mark A are critical for safet y. Replace only with part number specified.

## **SECTION 7** ELECTRICAL PARTS LIST

The components identified by shading and mark A are critical for safety.
Replace only with part number specified.

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS • MF : س۶, PF عرر

RESISTORS

All resistors are in ohms
 F: nonflammable

COILS

• MMH : mH, UH : بر

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	• Description			Remark	Ref.No.	. Part No.	Description			Remark
	*A-1135-455-A	B BOARD, COM	1PLETE *****			C367   C368   C381   C382	1-101-004-00 1-101-880-00 1-124-902-00 1-124-927-11	CERAMIC CERAMIC ELECT ELECT	0.01MF 47PF 0.47MF 4.7MF	5% 20% 20%	50V 50V 50V 50V
C301 C302 C303 C304 C305	1-110-179-81 1-110-179-81 1-126-101-11 1-110-179-81 1-124-119-00	MYLAR MYLAR ELECT MYLAR ELECT	0.22MF 0.22MF 100MF 0.22MF 330MF	10% 10% 20% 10% 20%	100V 100V 16V 100V 16V	C384 C385 C387 C1311	1-124-477-11 1-124-927-11 1-124-902-00 1-101-884-00	ELECT ELECT	47MF 4.7MF 0.47MF 56PF	20% 20% 20% 5%	16V 50V 50V 50V
C306 C307 C308 C309 C310	1-124-902-00 1-124-902-00 1-124-902-00 1-124-902-00 1-110-175-81	ELECT ELECT ELECT ELECT MYLAR	0.47MF 0.47MF 0.47MF 0.47MF 0.1MF	20% 20% 20% 20% 10%	50V 50V 50V 50V 100V	[ CNB/2	*1-562-370-21 *1-564-895-11 *1-560-278-00	PLUG, CONNEC	CTOR 6P	RD 18P	
C311 C312 C313 C314 C315	1-110-175-81 1-124-902-00 1-124-902-00 1-124-902-00 1-124-499-11	MYLAR ELECT ELECT ELECT ELECT	0.1MF 0.47MF 0.47MF 0.47MF 1MF	10% 20% 20% 20% 20%	100V 50V 50V 50V 50V	   CT332 	1-141-181-11 DIC	<u>DDE</u>			
C319 C321 C322 C325 C326	1-124-477-11 1-102-980-00 1-101-888-00 1-124-477-11 1-101-004-00	ELECT CERAMIC CERAMIC ELECT CERAMIC	47MF 270PF 68PF 47MF 0.01MF	20% 5% 5% 20%	16V 50V 50V 16V 50V	D301 D302 D303 D304 D305	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119			
C327 C331 C332 C333 C334	1-101-004-00 1-124-963-11 1-124-119-00 1-101-005-00 1-101-884-00	CERAMIC ELECT ELECT CERAMIC CERAMIC	0.01MF 33MF 330MF 0.022MF 56PF	20% 20% 5%	50V 16V 16V 50V 50V	D307	8-719-110-23 <u>DEL</u> 1-415-187-12	AY LINE	-83		
C335 C336 C337 C338 C339	1-101-006-00 1-110-190-81 1-101-004-00 1-101-888-00 1-102-735-00	CERAMIC MYLAR CERAMIC CERAMIC CERAMIC	0.047MF 0.01MF 0.01MF 68PF 120PF	10% 5% 5%	50V 400V 50V 50V 50V	IC302	8-759-923-81 8-759-941-98 8-759-947-20	IC TDA4580 IC TDA8442 TDA4555-V8			
C340 C341 C342 C343 C344	1-102-513-00 1-102-978-00 1-102-513-00 1-102-735-00 1-101-888-00	CERAMIC CERAMIC CERAMIC CERAMIC CERAMIC	18PF 220PF 18PF 120PF 68PF	5% 5% 5% 5% 5%	50V 50V 50V 50V 50V	   L301   L302   L303   L304   L331	1-410-868-21 1-410-868-21 1-410-469-21 1-410-470-11 1-410-469-21	MICRO INDUCT MICRO INDUCT	OR 4.7UH OR 8.2UH OR 10UH		
C345 C346 C347 C349 C350	1-102-978-00 1-102-074-00 1-124-499-11 1-136-173-00 1-110-171-81	CERAMIC CERAMIC ELECT FILM MYLAR	220PF 0.001MF 1MF 0.47MF 0.047MF	5% 10% 20% 5% 10%	50V 50V 50V 50V 100V	L332   L333   L334   L335   L339	1-404-539-11 1-404-554-11 1-404-554-11 1-404-554-11 1-410-868-21	COIL COIL COIL			
C353 C354 C355 C360	1-110-182-81 1-102-506-00 1-102-074-00 1-102-679-00 1-101-004-00	MYLAR CERAMIC CERAMIC CERAMIC CERAMIC	0.022MF 7PF 0.001MF 120PF 0.01MF	10% 0.5PF 10% 5%	250V 50V 50V 50V 50V	       Q302   Q303	8-729-178-54 8-729-178-54	NSISTOR  TRANSISTOR 2 TRANSISTOR 2	SC2785		
C361 C364 C365 C366	1-101-004-00 1-101-361-00 1-124-477-11 1-124-477-11	CERAMIC CERAMIC ELECT ELECT	0.01MF 150PF 47MF 47MF	5% 20% 20%	50V 50V 16V 16V	Q305   Q311   Q312     Q313	8-729-900-36 8-729-178-54 8-729-178-54 8-729-178-54	TRANSISTOR D TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	SC2785 SC2785		



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Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description				Remark
C164 C165 C167 C168 C169	1-124-499-11	FILM ELECT MYLAR	0.01MF 0.0047MF 1MF 0.22MF 10MF	10% 5% 20% 10% 20%	400V 50V 50V 100V 50V	Q104   Q105   Q106   Q107   Q108	8-729-900-61 8-729-178-54 8-729-178-54 8-729-117-54 8-729-900-65	TRANSISTOR DT TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR DT	C2785 C2785 A1175			
C170 C171 C174 C177	1 101 004 00	CERAMIC CERAMIC ELECT CERAMIC	0.01MF 0.01MF 1MF 0.0015MF	20% 10%	50V 50V 50V 50V	Q109   Q110   Q111   Q112   Q113	8-729-117-54 8-729-900-89 8-729-178-54	TRANSISTOR DT TRANSISTOR 2S TRANSISTOR DT TRANSISTOR 2S TRANSISTOR 2S	Al175 Cl44ES C2785			
	FIL	TER						ISTOR				
CD101 CD102 CD103 CF101 CF103	1-101-004-00 1-124-499-11 1-102-119-00  FIL  1-404-750-11 1-404-745-11 1-404-745-11 1-404-134-00 1-527-840-00 1-527-839-00 1-527-839-00 1-527-839-00 1-404-717-11  CON  *1-566-660-11  DIO  8-719-109-92 8-719-911-19 8-719-000-06  IC  8-759-909-08 8-759-941-96 8-759-941-81 8-759-941-81 8-759-941-81 8-759-941-81 1-410-467-21 1-408-411-00 1-410-482-31 1-410-473-11 1-410-473-11 1-410-473-11 1-410-64-11	DISCRIMINATO DISCRIMINATO DISCRIMINATO TRAP, CERAMI FILTER, CERA	OR, CERAMIC OR, CERAMIC OR, CERAMIC IC (5.5MHZ)			   R101   R102   R103   R104	1-249-405-11 1-249-423-11 1-249-433-11 1-249-429-11 1-249-418-11	CARBON CARBON CARBON CARBON	100 3.3K 22K 10K 1.2K	5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
CF104 CF105 SWF101	1-527-839-00 1-527-839-00 1-404-717-11	FILTER, CERA FILTER, CERA FILTER, SURF	AMIC AMIC FACE WAVE			R106   R107	1-247-891-00 1-249-421-11 1-249-421-11	CARBON CARBON	330K 2.2K 2.2K	5% 5%	1/4W 1/4W 1/4W	
	CON	NECTOR				R109	1-249-423-11	CARBON	3.3K 390	5% 5%	1/4W 1/4W	
CNA11	*1-566-660-11	CONNECTOR, H	HINGE (PLUG)	18P		   R111	1-249-418-11	CARBON	1.2K	5%	1/4W	
	<u>D10</u>	<u>DE</u>				R112	1-249-421-11	CARBON CARBON	2.2K 330		1/4W 1/4W	
D105 D106 D108	8-719-109-92 8-719-911-19 8-719-000-06	DIODE RD6.28 DIODE 1SS119 DIODE MC921	ES-B1 )			R114   R115	1-249-413-11 1-249-413-11	CARBON CARBON	470 470	5% 5%	1/4W 1/4W	
	IC					R116   R117	1-249-419-11 1-249-431-11	CARBON CARBON	1.5K 15K	5% 5%	1/4W 1/4W	
10101	8-759-909-08	IC TD43541				R118	1-249-425-11 1-249-417-11	CARBON CARBON	4.7K 1K	5% 5%	1/4W 1/4W	
IC102 IC103 IC104	8-759-941-96 8-759-013-18 8-759-941-81	IC TDA2556 IC TDA6600 IC TDA2595-1	<b>/</b> 6			R120     R121	1-249-419-11 1-249-429-11	CARBON CARBON	1.5K 10K		1/4W 1/4W	
10105	8-759-003-90	IC TBA129				R122   R123	1-249-436-11 1-249-417-11	CARBON CARBON	39K 1K	5% 5%	1/4W 1/4W	
	<u>C01</u>	<u>L</u>				R124	1-249-423-11 1-249-429-11	CARBON CARBON	3.3K 10K	5% 5%	1/4W 1/4W	
L101 L102 L103 L104 L105	1-408-226-00 1-410-116-11 1-410-467-21 1-408-411-00 1-410-482-31	MICRO INDUC MICRO INDUC MICRO INDUC MICRO INDUC MICRO INDUC	FOR 82UH FOR 560UH FOR 5.6UH FOR 15UH FOR 100UH			R126 R127 R128 R129	1-249-436-11 1-249-432-11 1-249-432-11 1-249-429-11	CARBON CARBON CARBON CARBON	39K 18K 18K 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
L106 L107	1-410-476-11 1-410-467-21	MICRO INDUC	TOR 33UH TOR 5.6UH			R130     R132	1-249-429-11	CARBON	10K	5% 5%	1/4W 1/4W	
L109 L110	1-410-4/3-11 1-410-473-11 1-410-064-11	MICRO INDUC MICRO INDUC	TOR 180H TOR 18UH TOR 2.7MMH			R133   R134   R135	1-249-424-11 1-249-414-11 1-249-423-11	CARBON CARBON CARBON	3.9K 560 3.3K	5% 5% 5%	1/4W 1/4W 1/4W	
լ111 լ112	1-410-482-31 1-410-471-11	MICRO INDUC MICRO INDUC	TOR 100UH TOR 12UH			   R137	1-249-414-11	CARBON	560 560	5% 5%	1/4W 1/4W	
լ113	1-410-460-11		TUR 1.5UH			R138   R140	1-249-423-11	CARBON CARBON	3.3K 100K	5%	1/4W 1/4W	
.1	***	ANSISTOR				R141	1-249-424-11 1-249-441-11	CARBON CARBON	<b>3.9K</b> 100K		1/4W 1/4W	
Q101 Q102	8-729-900-61 8-729-900-61					   R143	1-249-441-11	CARBON	100K	5%	1/4W	

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Ref.No. Part No.	Description		Remark	Ref.No.	Part No.	Description			Remark
*1-622-446-11 CAF	F1 BOARD *******			C107   C108   C109   C110	1-102-963-00 1-124-963-11 1-101-003-00 1-124-499-11	CERAMIC ELECT CERAMIC ELECT	33PF 33MF 0.0047MF 1MF	5% 20% 20%	50V 16V 50V 50V
C1601人 1-136-518-11 C1602人 1-136-519-11 C1603人 1-162-578-51 C1604人 1-162-578-51 C1605人 1-162-578-51	FILM CERAMIC CERAMIC	0.33MF 20% 0.47MF 20% 0.0047MF 20% 0.0047MF 20% 0.0047MF 20%	300V 300V 400V 400V 400V	C111   C112   C113   C114   C117   C118	1-101-003-00 1-101-003-00 1-101-003-00 1-124-963-11 1-102-978-00 1-101-880-00	CERAMIC CERAMIC CERAMIC ELECT CERAMIC CERAMIC	0.0047MF 0.0047MF 0.0047MF 33MF 220PF 47PF	20% 5%	50V 50V 50V 16V 50V
C1606 <u>A</u> 1-162-578-51	CERAMIC	0.0047MF 20%	400V	İ				5%	50V
COM	INECTOR			C119	1-126-101-11 1-124-925-11	ELECT ELECT	100MF 2.2MF	20% 20%	16V 50V
CNF61 *1-566-664-11 CNF64 *1-506-348-XX CNF65 *1-508-765-00	PIN, CONNECT 3P PLUG (L) 3P PLUG (M)	OR 4P		C121   C122   C123	1-101-003-00 1-101-003-00 1-101-003-00	CERAMIC CERAMIC CERAMIC	0.0047MF 0.0047MF 0.0047MF		50 <b>V</b> 50 <b>V</b> 50 <b>V</b>
CNF66 *1-508-786-00 CNF67 *1-560-290-00 CNF162*1-506-348-XX	4P PLUG	DR(2.5MM PICH)		C124 C125 C127 C128	1-101-888-00 1-101-888-00 1-101-003-00 1-124-963-11	CERAMIC CERAMIC CERAMIC ELECT	68PF 68PF 0.0047MF 33MF	5% 5% 20%	50V 50V 50V 16V
<u>FUS</u>				C129	1-101-888-00	CERAMIC	68PF	5%	50 <b>V</b>
	HOLDER, FUSE	AG 4A/250V ; F1601		C130 C131 C132	1-101-004-00 1-101-006-00 1-124-499-11	CERAMIC CERAMIC ELECT	0.01MF 0.047MF 1MF	20%	50V 50V 50V
<u>CO</u> :	<del>_</del>			C133   C134	1-101-003-00 1-124-499-11	CERAMIC ELECT	0.0047MF 1MF	20%	50 V 50 V
LF1601 <u>A</u> 1-421-866-11 LF1602 <u>A</u> 1-421-776-11	LFT			   C135   C136	1-101-004-00 1-101-006-00	CERAMIC CERAMIC	0.01MF 0.047MF		50V 50V
	SISTOR			C137   C138	1-102-961-00 1-124-499-11	CERAMIC ELECT	27PF 1MF	5% 20%	50V 50V
R1601 <u>A</u> 1-247-879-91 R1602 <u>A</u> 1-244-945-91 R1603 <u>A</u> 1-217-328-11 R1604 <u>A</u> 1-247-879-91 R1605 <u>A</u> 1-247-289-11	CARBON CARBON WIREWOUND CARBON CARBON	100K 5% 1/4W 1M 5% 1/2W 2.7 10% 7W 100K 5% 1/4W 8.2M 5% 1W	F	C139 C140 C141 C142 C143	1-123-875-11 1-108-614-91 1-129-794-00 1-102-816-00 1-101-361-00	ELECT  MYLAR  FILM  CERAMIC  CERAMIC	10MF 0.001MF 0.0033MF 120PF 150PF	20% 10% 2% 5% 5%	50V 100V 100V 50V 50V
R1606 <u></u> 1-217-777-11	WIREWOUND	100 10% 10W	F	C144	1-124-477-11	ELECT	47MF	20%	16V
THI	ERMISTOR			C145	1-124-477-11	ELECT	47MF	20%	16V
THP601 <b>1</b> .1-806-387-11			*****	C146   C147   C148   C149	1-124-477-11 1-124-477-11 1-123-875-11 1-136-153-00	ELECT ELECT ELECT FILM	47MF 47MF 10MF 0.01MF	20% 20% 20% 5%	16V 16V 50V 50V
*A-1296-317-A	A BOARD, COM			   C150   C151	1-136-153-00 1-124-908-11	FILM ELECT	0.01MF 22MF	5% 20%	50 V 50 V
	CASE (UPPER	SHIELD, A1 LID), SHIELD, A1 LID), SHIELD, A2		C152   C153   C154	1-124-908-11 1-136-165-00 1-136-169-00	ELECT FILM FILM	22MF 0.1MF 0.22MF	20% 5% 5%	50V 50V 50V
CA	PACITOR			C155	1-124-963-11 1-136-157-00	ELECT FILM	33MF 0.022MF	20% 5%	16V 50V
C101 1-124-908-11 C102 1-126-103-11 C103 1-110-175-81	ELECT MYLAR	22MF 20% 470MF 20% 0.1MF 10%	50V 16V 100V	C157   C158   C159	1-136-161-00 1-124-963-11 1-124-477-11	FILM ELECT ELECT	0.047MF 33MF 47MF	5 % 2 0% 2 0%	50V 16V 16V
C104 1-110-173-81 C105 1-110-173-81	MYLAR	0.068MF 10% 0.068MF 10%	100V 100V	C161 C162 C163	1-124-477-11 1-102-816-00 1-124-927-11	ELECT CERAMIC ELECT	47MF 120PF 4.7MF	2 0% 5 % 2 0%	16V 50V 50V
C106 1-101-004-00	CERAMIC	0.01MF	50V						

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Replace only with part number specified.



Ref.No. Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
R715 1-202-824-00 R716 1-249-409-11 R717 1-249-415-11 R718 1-202-814-11 R719 1-249-401-11	SOL ID CARBON CARBON SOL ID CARBON	220 5 680 5 33K 1	0% 1/2W 5% 1/4W 5% 1/4W 0% 1/2W 5% 1/4W		C019   C021   C022   C024   C025	1-110-171-81 1-102-973-00 1-124-477-11 1-124-499-11 1-102-125-00	MYLAR CERAMIC ELECT ELECT CERAMIC	0.047MF 100PF 47MF 1MF 0.0047MF	10% 5% 20% 20% 10%	100V 50V 16V 50V 50V
R720 1-249-423-11 R721 1-202-842-11 R722 1-202-848-00 R723 1-249-417-11 R724 1-202-846-00	CARBON SOL ID SOL ID CARBON SOL ID	220K 1 680K 1 1K 5	1/4W 0% 1/2W 0% 1/2W 0% 1/4W 0% 1/2W		C026   C027   C028   C029   C251	1-102-125-00 1-110-175-81 1-101-361-00 1-102-121-00 1-124-927-11	CERAMIC MYLAR CERAMIC CERAMIC ELECT	0.0047MF 0.1MF 150PF 0.0022MF 4.7MF	10% 10% 5% 10% 20%	50V 100V 50V 50V 50V
R725 1-202-838-00 R726 1-202-824-00 R727 1-249-409-11 R728 1-216-347-11 R729 1-249-416-11	SOLID SOLID CARBON METAL OXIDE CARBON	3.3K 1 220 5 0.68 5	0% 1/2W 0% 1/2W 5% 1/4W 5% 1W 5% 1/4W	F	C252   C253   C254   C255   C256	1-124-927-11 1-124-122-11 1-124-927-11 1-124-927-11 1-110-175-81	ELECT ELECT ELECT ELECT MYLAR	4.7MF 100MF 4.7MF 4.7MF 0.1MF	20% 20% 20% 20% 10%	50V 50V 50V 50V 100V
R730 1-249-401-11 R731 1-249-423-11 R732 1-249-415-11 R733 1-249-415-11 R734 1-249-405-11	CARBON CARBON CARBON CARBON CARBON	3.3K 5 680 5 680 5	% 1/4W % 1/4W % 1/4W % 1/4W % 1/4W		C257   C258   C260   C265   C266	1-101-004-00 1-110-175-81 1-110-175-81 1-102-074-00 1-102-074-00	CERAMIC MYLAR MYLAR CERAMIC CERAMIC	0.01MF 0.1MF 0.1MF 0.001MF 0.001MF	10% 10% 10% 10%	50V 100V 100V 50V 50V
R735 1-215-493-00 R736 1-216-486-00 R737 1-215-481-00 R739 1-249-417-11	METAL METAL OXIDE METAL CARBON	8.2K 5 330K 1 1K 5	% 1/6W % 3W % 1/6W % 1/4W	F	C401 C403 C501 C502 C503	1-124-477-11 1-124-477-11 1-124-927-11 1-124-927-11 1-110-192-81	ELECT ELECT ELECT ELECT MYLAR	47MF 47MF 4.7MF 4.7MF 0.015MF	20% 20% 20% 20% 10%	16V 16V 50V 50V 400V
VAF RV701 1-226-114-00 RV702 1-230-619-11 RV703 1-237-749-11 RV704 1-237-749-11	RIABLE RESISTOR  RES, ADJ, MET RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR	- TAL GLAZE TAL GLAZE BON 2200	110M		   C504   C505   C506   C507   C508	1-101-361-00 1-108-794-91 1-110-182-81 1-110-327-81 1-110-182-81	CERAMIC MYLAR MYLAR MYLAR MYLAR	150PF 0.0015MF 0.022MF 0.33MF 0.022MF	5% 5% 10% 10%	50V 50V 250V 100V 250V
******	******	*****	******	*****	1 0000	1-110-175-81	MYLAR	0.1MF	10%	100V
*A-1345-720-A	D BOARD, COMP				C510   C511   C512   C513	1-161-959-00 1-108-620-91 1-110-175-81 1-108-614-91	CERAMIC MYLAR MYLAR MYLAR	22PF 0.0033MF 0.1MF 0.001MF	10% 10% 10% 10%	500V 100V 100V 100V
CAF	PACITOR				C514	1-110-179-81	MYLAR	0.22MF	10%	100V
C001 1-102-973-00 C002 1-102-116-00 C003 1-110-175-81 C004 1-123-875-11 C005 1-102-074-00	CERAMIC MYLAR ELECT	100PF 680PF 0.1MF 10MF 0.001MF	5% 10% 10% 20% 10%	50V 50V 100V 50V 50V	C515	1-124-499-11 1-108-614-91 1-124-252-00 1-124-902-00	ELECT MYLAR ELECT ELECT	1MF 0.001MF 0.33MF 0.47MF	20% 10% 20% 20%	50V 100V 50V 50V
C007 1-110-171-81 C008 1-101-880-00 C009 1-101-884-00 C010 1-126-101-11 C011 1-101-004-00	MYLAR CERAMIC CERAMIC ELECT CERAMIC	0.047MF 47PF 56PF 100MF 0.01MF	10% 5% 5% 20%	100V 50V 50V 16V 50V	C519   C520   C521   C522   C523	1-136-173-00 1-102-121-00 1-110-175-81 1-124-122-11 1-108-614-91	FILM CERAMIC MYLAR ELECT MYLAR	0.47MF 0.0022MF 0.1MF 100MF 0.001MF	5% 10% 10% 20% 10%	50V 50V 100V 50V 100V
C012 1-126-101-11 C013 1-101-004-00 C014 1-124-463-00 C015 1-126-101-11 C016 1-101-004-00	ELECT CERAMIC ELECT ELECT CERAMIC	100MF 0.01MF 0.1MF 100MF 0.01MF	20% 20% 20%	16 V 50 V 50 V 16 V 50 V	C524 C525 C527 C531 C532	1-106-184-00 1-102-973-00 1-110-175-81 1-124-117-00 1-124-122-11	MYLAR CERAMIC MYLAR ELECT ELECT	0.0033MF 100PF 0.1MF 680MF 100MF	5% 5% 10% 10% 20%	50V 50V 100V 25V 50V
C017 1-123-875-11 C018 1-102-980-00	ELECT CERAMIC	10MF 270PF	20% 5%	50V 50V	C533 C534 C536	1-110-173-81 1-124-120-11 1-131-365-00	MYLAR ELECT TANTALUM	0.068MF 220MF 10MF	10% 20% 10%	100V 16V 16V





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Ref.No	o. Part No.	Description			Remark	Ref.No	. Part No.	Description				Remar
R144 R145 R146 R147 R148	1-249-422-11 1-249-417-11 1-249-422-11 1-249-417-11 1-249-413-11	CARBON CARBON CARBON CARBON CARBON	2.7K 5% 1K 5% 2.7K 5% 1K 5% 470 5%	1/4W 1/4W 1/4W		C716   C717   C718   C719	1-162-583-11 1-102-114-00 1-102-114-00 1-102-114-00	CERAMIC CERAMIC CERAMIC CERAMIC	330PF 470PF 470PF 470PF		10% 10% 10% 10%	400V 50V 50V 50V
R150	1-249-423-11	CARBON	3.3K 5%	3 1/4W		1	CON	NECTOR				
R151 R152 R153 R154	1-249-423-11 1-249-431-11 1-249-416-11 1-249-441-11	CARBON CARBON CARBON CARBON	3.3K 59 15K 59 820 59 100K 59	1/4W 1/4W 1/4W		CNC72	*1-506-371-00 *1-564-883-11 *1-560-123-00 *1-508-765-00	2P PLUG (L) PLUG, CONNE PLUG, CONNE 3P PLUG (M)	CTOR 6P CTOR (2	.5MM F	РІТСН)	
R155	1-249-430-11	CARBON	12K 59				DIO	DDE				
R156 R160 R162 R163	1-247-881-00 1-249-417-11 1-249-415-11 1-249-422-11	CARBON CARBON CARBON CARBON	120K 59 1K 59 680 59 2.7K 59	1/4W 1/4W		D701 D702 D703 D704	8-719-110-14 8-719-911-19 8-719-911-19 8-719-911-19	DIODE RD9.11 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119	) )			
R165 R166	1-249-423-11 1-249-437-11	CARBON CARBON	3.3K 5% 47K 5%			D705	8-719-911-19	DIODE 155119				
R172 R173	1-249-417-11 1-249-414-11	CARBON CARBON	1K 5% 560 5%	1/4W		D706 D707 D708	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 188119 DIODE 188119 DIODE 188119	) )			
51.0.1		RIABLE RESISTO	_			D709   D710	8-719-911-19 8-719-911-19	DIODE 1SS119				
RV101 RV102 RV103		RES, ADJ, CA RES, ADJ, CA RES, ADJ, CA	RBON 10K			D711 D713	8-719-924-06 8-719-911-19	DIODE ERC24- DIODE 1SS119	065			
	TRA	INSFORMER				!	JAC	<u>:K</u>				
T101 T102 T103	1-404-493-00 1-404-493-00 1-404-493-00	COIL				[   J701 	1-526-798-21					
1103						 	<u>C01</u>	_				
والدورية	TUN					L704 	1-410-878-21	MICRO INDUCT	OR 33UF	4		
TU101/	<b>1</b> -463-881-11	TUNER, ET (U	V-617)	1, <u>1</u> 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		j 1	TRA	NSISTOR				
*****	************ *A-1330-814-A		PLETE	*****	*****	Q702 Q703 Q704 Q705 Q706	8-729-178-54 8-729-326-11 8-729-200-17 8-729-178-54 8-729-326-11	TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	SC2611 SA1091 SC2785			
	*4-379-160-01 *4-379-167-01 *4-386-664-01	COVER (REAR COVER (MAIN) SPRING				Q707   Q707   Q708	8-729-200-17 8-729-178-54	TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	SA1091			
	CAP	ACITOR				Q709   Q710	8-729-326-11 8-729-200-17	TRANSISTOR 2 TRANSISTOR 2	SC2611 SA1091			
C703	1-102-980-00	CERAMIC	270PF	5 <b>%</b>	50V	 		ISTOR				
C704 C705 C706 C707	1-102-116-00 1-102-978-00 1-102-116-00 1-162-116-00	CERAMIC CERAMIC CERAMIC CERAMIC	680PF 220PF 680PF 680PF	10% 5% 10% 10%	50V 50V 50V 2KV	R704 R705 R706	1-216-486-00 1-202-824-00 1-249-409-11	METAL OXIDE SOLID CARBON	220	5% 10% 5%	3W 1/2W 1/4W	F
C708 C709	1-162-114-00 1-102-116-00	CERAMIC CERAMIC	0.0047MF 680PF	10%	2KV 50V	R707   R708	1-249-412-11 1-249-401-11	CARBON CARBON	390 47	5% 5%	1/4W 1/4W	
C710 C711 C712	1-123-947-00 1-101-880-00 1-102-980-00	ELECT CERAMIC CERAMIC	10MF 47PF 270PF	20% 5% 5%	250v 50v 50v	R709 R710 R712	1-202-844-00 1-215-465-00 1-249-417-11	SOLID METAL CARBON	330K 68K 1K	10% 1% 5%	1/2W 1/6W 1/4W	
C714	1-124-555-00	ELECT	1000MF	20%	167	R713 R714	1-215-471-00 1-216-486-00	METAL OXIDE	120K 8.2K		1/6W 3W	F

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Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remar
C537 C538 C539 C591	1-124-499-11 1-108-614-91 1-102-820-00 1-123-875-11	MYLAR CERAMIC	1MF 0.001MF 330PF 10MF	20% 10% 5% 20%	50V 100V 50V 50V	C822   C823   C824	1-102-114-00 1-110-186-81 1-102-212-00	CERAMIC MYLAR CERAMIC	470PF 0.0047MF 820PF	10% 10% 10%	50V 400V 500V
C592	1-124-477-11	ELECT	47MF	20%	16 V	C825   C826	1-110-182-81 1-123-875-11	MYLAR ELECT	0.022MF 10MF	10% 20%	250V 50V
C593 C601		CERAMIC CERAMIC	330PF 0.0047MF	5 <b>%</b>	50V 250V	   	FIL	TER			
C602 C603 C604	1-161-964-00 1-161-964-00 1-125-318-00	CERAMIC CERAMIC ELECT(BLOCK)	0.0047MF 0.0047MF 220MF	20%	250V 250V 400V	CF001   CF501	1-567-686-11 1-567-888-11	OSCILLATOR, OSCILLATOR,	CERAMIC CERAMIC		
						į	CON	NECTOR			
C605 C606	1-124-122-11 1-110-175-81	ELECT MYLAR	100MF 0.1MF	20% 10%	50V 100V	L CNRO1	*1-508-765-00	3P PLUG (M)			
C607	1-130-019-00		0.0012MF	5%	50V		*1-564-884-11	PLUG, CONNEC	TOR 7P		
C608		ELECT	10MF	20%	50 V		*1-564-886-11	PLUG, CONNEC			
C611	1-124-122-11		100MF	20%	50V		*1-566-659-11 *1-564-880-31	CONNECTOR, H PLUG, CONNEC		T) 18P	
C612 C613	1-162-115-00 1-136-088-00		330PF	10%	2KV	CNDOI	+1 564 246 00				
C614	1-102-030-00	FILM CERAMIC	0.0022MF 330PF	3% 10%	2KV 500V		*1-564-346-00 *1-560-124-00	CONNECTOR, B	OARD TO BOAI	RD 18P	
C615	1-124-557-11	ELECT	1000MF	20%	25 V		*1-564-346-00	PLUG, CONNEC CONNECTOR, B			
C616	1-102-030-00	CERAMIC	330PF	10%	500 <b>v</b>	CND41	*1-566-367-11 *1-566-367-11	CONNECTOR, H	INGE (RECEP	TACLE)	
C618	1-124-637-11	ELECT	1000MF	20%	50V	1		,	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
C619 C <b>6</b> 20	1-124-556-11 1-102-074-00	ELECT CERAMIC	2200MF 0.001MF	20% 10%	16 V 50 V	CNDEA	+1 FOC 240 VV	20 0110 (1)			
C621	1-124-347-00	ELECT	100MF	20%	160V		*1-506-348-XX *1-508-765-00	3P PLUG (L) 3P PLUG (M)			
C 622	1-124-556-11		2200MF	20%	16V	CND83	*1-508-786-00 *1-564-038-00	2P PLUG (M) CONNECTOR PL	UG DY (MIN'	I) 6P	
C623	1-124-910-11		47MF	20%	50 V		- 77, 755 75		•		
C624	1-124-122-11	ELECT	100MF	20%	50 V		*1-560-123-00	PLUG, CONNEC			
C625 C626	1-124-555-00 1-123-875-11	ELECT ELECT	1000MF 10MF	20% 20%	16V 50V		*1-560-125-00 *1-560-123-00	PLUG, CONNEC			
C 627	1-102-074-00		0.001MF	10%	50 <b>v</b>	CNU94		PLUG, CONNEC	IUR (2.5MM F	TICH)	
C628	1-124-555-00	ELECT	1000MF	20%	16V		DIO	DE			
C628A	1-126-101-11	ELECT	100MF	20%	16V	D001	8-719-911-19	DIODE 1SS119			
C631	1-124-927-11		4.7MF	20%	50V	D002	8-719-911-19	DIODE 1SS119			
C632 C633	1-102-074-00 1-124-927-11	CERAMIC	0.001MF 4.7MF	10%	50V	D003	8-719-911-19	DIODE 188119			
0033	1-124-92/-11	ELECT	4.711	20%	50V	D004   D005	8-719-911-19 8-719-109-71	DIODE 1SS119 DIODE RD3.9E	c p1		
C636	1-123-258-91	ELECT	3.3MF	20%	50V	1 5003	0-719-109-71	D100E R03.9E	2-01		
C801	1-126-105-11	ELECT	1000MF	20%	35 V	D007	8-719-109-89	DIODE RD5.6E	S-B2		
C802 C804	1-102-030-00	CERAMIC	330PF	10%	500V	D008	8-719-110-90	DIODE RD39ES	-B4		-
C805	1-123-948-00 1-162-114-00	ELECT CERAMIC	22MF 0.0047MF	20%	250V 2KV	D009   D011	8-719-109-89	DIODE RD5.6E	S-B2		
				10-4		D254	8-719-911-19 8-719-110-14	DIODE 1SS119 DIODE RD9.1E	S-B3		
C806 C807	1-110-175-81 1-106-395-00		0.1MF 0.15MF	10% 10%	1000	1 0501	0 710 011 10	D. 1			
C810	1-123-024-00	MYLAR	33MF	10%	200V 160V	D501   D504	8-719-911-19 8-719-911-55	DIODE 1SS119			
	1-136-117-00	FILM	2MF	5%	200V	D506	8-719-000-12	DIODE MC931			
C812	1-123-943-00		1MF	20%	250 <b>v</b>	D508 D509	8-719-911-19 8-719-911-19	DIODE 155119 DIODE 155119			
C813	1-102-212-00	CERAMIC	820PF	10%	500V	Ì					
C814 C815	1-161-731-00	CERAMIC	0.001MF	10%	2KV	D511	8-719-911-55	DIODE UOSG			
C817	1-136-116-00 1-136-565-11	FILM FILM	1MF 0.015MF	5% 3%	200V 1.4KV	D512 D513	8-719-911-55 8-719-109-81	DIODE U05G	. 00		
C818	1-129-721-00	FILM	0.039MF	10%	630V	D513   D591	8-719-109-81	DIODE RD4.7E	D-B2		
				,0		D592	8-719-911-19	DIODE 155119			
	.1-161-731-11	CERAMIC		10%	2KV						
C820 C821 A	1-110-189-81 1-162-116-51	MYLAR CERAMIC	0.0082MF <b>680PF</b>	10%	400V	D593	8-719-911-19	DIODE 1SS119	5000		
OOLI /	741-40K-110-31	GERMATIC	COUPT	TOW:	2KV	D601	8-719-946-90	DIODE KBU4JL-	-8800		

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Replace only with part number specified →



Ref.No. Part No.	Description	Remark	Ref.No.	Part No.	Description			Remark
D602 8-719-924-06 D603 8-719-911-55 D604 8-719-911-55 D605 8-719-911-55 D606 8-719-924-06	DIODE ERC24-06S DIODE U05G DIODE U05G DIODE U05G DIODE ERC24-06S		L603   L605   L606		FERRITE BEAD	INDUCTOR ORE) ONTAL CHOK	E) 25UH	
D607     8-719-924-06       D608     8-719-925-06       D610     8-719-300-59       D611     8-719-928-08       D612     8-719-300-59	DIODE ERC24-06S DIODE ERC25-06S DIODE CTU-12S DIODE ERD28-08S DIODE CTU-12S		L804   L805   L806	1-459-104-00 1-408-239-00 1-459-755-11 1-459-111-00 1-408-242-00	MICRO INDUCTO COIL, HORIZON	OR 4.7MMH ITAL LINEA ORE (CDI)	RITY	
D613 8-719-924-06 D614 8-719-924-06 D615 8-719-109-92 D616 8-719-109-93 D617 8-719-109-93	DIODE ERC24-06S DIODE ERC24-06S DIODE RD6.2ES-B1 DIODE RD6.2ES-B2 DIODE RD6.2ES-B2		L810   		PMC L INK	RE		
D618 8-719-109-89 D619 8-719-109-89 D620 8-719-000-12 D621 8-719-000-12	DIODE RD5.6ES-B2 DIODE RD5.6ES-B2 DIODE MC931 DIODE MC931			1-532-984-91 1-532-675-91 <u>TRA</u>		esta (f. 1945).	taya ar a	
D622 8-719-911-19	DIODE 1SS119  DIODE 1SS119  DIODE 1SS119  DIODE 1SS119  DIODE RO15ES-B1		Q002   Q003   Q004	8-729-117-54 8-729-117-54	TRANSISTOR 2S	SA1175 SA1175 SA1175		
D632 8-719-110-16  D633 8-719-911-19  D801 8-719-924-06  D802 8-719-924-06	DIODE RDIOES-B1  DIODE 1SS119  DIODE ERC24-06S  DIODE ERC24-06S		Q502   Q503   Q505	8-729-117-54 8-729-117-54 8-729-178-54 8-729-177-43 8-729-103-43	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	SA1175 SC2785 SD774		
D804 8-719-911-55  D805 8-719-911-55  D806 8-719-945-80  D807 8-719-945-80	DIODE U05G DIODE U05G DIODE ERC06-15S DIODE ERC06-15S		Q591 Q598 Q601	8-729-117-54 8-729-178-54 8-729-178-54 8-729-904-32 8-729-209-02	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	GC2785 GC2785 GB1185-E		
0808 8-719-900-26 0809 8-719-924-06 <u>IC</u>	DIODE ERD29-08J DIODE ERC24-06S		Q603   Q604   Q605	8-729-178-54	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	5D78 <b>9</b> 5C2785		
IC001 8-759-630-06 IC002 8-759-970-37 IC003 8-759-603-41 IC004 8-759-157-40 IC251 8-759-803-31	IC M888503H-565G IC M58655P IC UPC574J IC LA4280		Q607   Q608	8-729-178-54 8-729-904-27 8-729-904-27 4-368-683-01	TRANSISTOR 2S SPRING; Q608	SD1761-E SD1761-E		
*4-368-683-01 IC401 8-752-006-10 IC501 8-759-942-15 IC502 8-759-944-57 IC601 8-759-946-23	SPRING; IC251 IC CX20061 IC TEA2028A IC TDA8170 IC TEA2164		Q801     Q804   *	8-729-378-91 8-729-178-54 8-729-304-50 (4-368-683-01 8-729-168-82	SPRING; Q804	SC2785 SD1941-06		
*4-386-642-01	HEAT SINK, IC; IC601				ISTOR			
L501 1-408-225-00	MICRO INDUCTOR 27UH MICRO INDUCTOR 3.3UH COIL, AIR CORE		R002   R003   R004	1-249-417-11 1-249-417-11 1-249-417-11 1-249-417-11 1-249-411-11	CARBON CARBON	1K 5% 1K 5% 1K 5% 1K 5% 330 5%	1/4W 1/4W 1/4W 1/4W 1/4W	

The components identified by shading and mark <u>A</u> are critical for safety.
Replace only with part number specified.



Ref.No. Part No.	Description			Remark	Ref.No.	Part No.	Description				Remark
R511 1-249-429 R512 1-247-891 R513 1-249-429 R514 1-249-409 R515 1-249-423	OO CARBON 11 CARBON 11 CARBON	10K 5% 330K 5% 10K 5% 220 5% 3.3K 5%	1/4W 1/4W 1/4W		R595 R596 R597 R598 R599	1-249-417-11 1-249-425-11 1-249-425-11 1-249-405-11 1-249-405-11	CARBON CARBON CARBON CARBON CARBON	1K 4.7K 4.7K 100 100	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R516 1-249-408 R517 1-249-429 R518 1-249-437 R519 1-249-433 R520 1-249-411	11 CARBON 11 CARBON 11 CARBON	180 5% 10K 5% 47K 5% 22K 5% 330 5%	1/4W 1/4W 1/4W		R602 R603 R604 R605 R606	1-215-901-00 1-216-359-00 1-249-414-11 1-215-469-00 1-215-440-00	METAL OXIDE METAL OXIDE CARBON METAL CARBON	33K 6.8 560 100K 6.2K	5% 5% 5% 1% 5%	2W 1W 1/4W 1/6W 1/4W	F
R521 1-249-405 R522 1-215-469 R523 1-249-417 R524 1-249-421 R525 1-249-417	00 METAL 11 CARBON 11 CARBON	100 5% 100K 1% 1K 5% 2.2K 5% 1K 5%	1/6W 1/4W 1/4W		R607   R608   R609   R610   R611	1-249-434-11 1-215-901-00 1-249-401-11 1-249-385-11 1-249-385-11	CARBON METAL OXIDE CARBON CARBON CARBON	27K 33K 47 2.2 2.2	5% 5% 5% 5% 5%	1/4W 2W 1/4W 1/4W 1/4W	F F
R526 1-249-409 R527 1-249-431 R528 1-249-408 R529 1-249-427 R530 1-249-448	11 CARBON 11 CARBON 11 CARBON	220 5% 15K 5% 180 5% 6.8K 5% 1.2 5%	1/4W 1/4W 1/4W	F	R612   R613   R614   R616   R617	1-217-193-00 1-249-401-11 1-205-919-11 1-249-417-11 1-249-411-11	WIREWOUND CARBON CEMENTED CARBON CARBON	0.27 47 220 1K 330	10% 5% 10% 5% 5%	2W 1/4W 10W 1/4W 1/4W	F F
R531 1-247-881 R532 1-249-417 R534 1-215-491 R535 1-249-753 R536 1-249-749	11 CARBON 00 CARBON 85 CARBON	120K 5% 1K 5% 820K 5% 4.7M 5% 2.2M 5%	1/4W 1/4W 1/4W		R618 R619 R620 R621 R622	1-218-022-51 1-249-429-11 1-249-433-11 1-249-431-11 1-249-429-11	METAL OXIDE CARBON CARBON CARBON CARBON	560 10K 22K 15K 10K	5% 5% 5% 5% 5%	1W 1/4W 1/4W 1/4W 1/4W	
R537 1-249-434 R538 1-215-479 R539 1-247-883 R540 1-249-399 R541 1-249-438	00 CARBON 00 CARBON 11 CARBON	27K 5% 270K 5% 150K 5% 33 5% 56K 5%	3 1/4W 3 1/4W 3 1/4W		R623   R624   R625   R626   R627	1-249-377-11 1-249-411-11 1-218-017-51 1-249-411-11 1-218-019-51	CARBON CARBON METAL OXIDE CARBON METAL OXIDE	0.47 330 220 330 330	5% 5% 5% 5% 5%	1/4W 1/4W 1W 1/4W 1/4W	F
R542 1-249-429 R543 1-215-088 R544 1-247-745 R545 1-249-433 R546 1-249-434	00 METAL 11 CARBON 11 CARBON	10K 5% 2.2 5% 330 5% 22K 5% 27K 5%	3 1/4W 3 1/2W 3 1/4W		R628   R629   R630   R633   R634	1-249-393-11 1-249-411-11 1-249-437-11 1-249-405-11 1-218-020-51	CARBON CARBON CARBON CARBON METAL OXIDE	10 330 47K 100 390	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R547 1-249-423 R548 1-216-349 R549 1-215-890 R550 1-249-440 R551 1-249-749	00 METAL OXIDE 11 METAL OXIDE 11 CARBON	3.3K 5% 1 5% 470 5% 82K 5% 2.2M 5%	1 1W 2 2W 1/4W	F F	R635   R636   R642   R643   R647	1-249-429-11 1-249-429-11 1-216-343-00 1-217-192-21 1-216-485-11	CARBON CARBON METAL OXIDE WIREWOUND METAL OXIDE	10K 10K 0.33 0.22 5.6K	5% 5% 5% 10% 5%	1/4W 1/4W 1W 2W 3W	F F
R552 1-218-026 R553 1-218-025 R554 1-249-411 R555 1-249-749 R556 1-249-405	51 METAL OXIDE 11 CARBON 00 CARBON	1.2K 5% 1K 5% 330 5% 2.2M 5% 100 5%	6 1W 6 1/4W 6 1/4W		R648 R649 R650 R651 R802	1-216-485-11 1-249-385-11 1-249-417-11 1-249-405-11 1-249-443-11	METAL OXIDE CARBON CARBON CARBON CARBON	5.6K 2.2 1K 100 0.47	5% 5% 5% 5% 5%	3W 1/4W 1/4W 1/4W 1/4W	F
R557 1-249-425 R558 1-247-895 R559 1-249-427 R560 1-249-411 R591 1-249-427	00 CARBON 11 CARBON 11 CARBON	4.7K 5% 470K 5% 6.8K 5% 330 5% 6.8K 5%	6 1/4W 6 1/4W 6 1/4W		R805   R806   R807   R809   R810	1-249-448-11 1-249-439-11 1-218-025-51 1-202-821-11 1-202-818-00	CARBON CARBON METAL OXIDE SOLID SOLID	1.2 68K 1K 1.8K 1K	5% 5% 5% 10% 10%	1/4n 1/4n 1W 1/2n 1/2n	F
R592 1-249-429 R593 1-249-429 R594 1-249-424	-11 CARBON	10K 5% 10K 5% 3.9K 5%	6 1/4W		R811   R812   R815	1-215-882-00 1-244-917-00 1-215-884-11	METAL OXIDE CARBON METAL OXIDE	22 68K 47	5% 5% 5%	2W 1/2W 2W	F F



Ref.No	. Part No.	Description				Remark	Ref.No.	Part No.	Description				Remark
R006	1-249-417-11	CARBON	1K	5%	1/4W		l l R070	1-249-417-11	CARRON	11/	r~		
R007	1-249-405-11	CARBON	100	5%	1/4W		R071	1-249-417-11	CARBON CARBON	1K 1K	5%	1/4W	
R008	1-249-417-11	CARBON	1K	5%	1/4W		R072	1-249-417-11	CARBON	1K	5%	1/4W	
R009	1-249-417-11	CARBON	1ĸ	5%	1/4W		R073	1-249-417-11	CARBON	1K	5% 5%	1/4W	
R010	1-249-413-11	CARBON	470	5%	1/4W		R074	1-249-417-11	CARBON	1K	5%	1/4W	
	_								CARDON	III	3 %	1/4W	
R011	1-249-417-11	CARBON	1K	5%	1/4W		R077	1-249-413-11	CARBON	470	5%	1/4W	
R012	1-249-417-11	CARBON	1K	5%	1/4W		į R078	1-249-423-11	CARBON	3.3K	5%	1/4W	
R013	1-249-417-11	CARBON	1K	5%	1/4W		R079	1-249-435-11	CARBON	33K	5%	1/4W	
R014	1-249-417-11	CARBON	1K	5%	1/4W		R080	1-249-429-11	CARBON	10K	5%	1/4W	
R016	1-249-429-11	CARBON	10K	5%	1/4W		R081	1-249-441-11	CARBON	100K	5%	1/4W	
R017	1 240 417 11	CARRON	1.,				[		*			-,	
R017	1-249-417-11 1-249-417-11	CARBON	1K	5%	1/4W		R083	1-249-429-11	CARBON	10K	5 <b>%</b>	1/4W	
R019	1-249-433-11	CARBON	1K	5%	1/4W		R084	1-249-413-11	CARBON	470	5%	1/4W	
R020	1-249-433-11	CARBON	22K	5%	1/4W		R085	1-249-429-11	CARBON	10K	5%	1/4W	
R021	1-249-433-11	CARBON CARBON	22K	5% c~	1/4W		R086	1-249-417-11	CARBON	1K	5 <b>%</b>	1/4W	
WOL 1	1-243-433-11	CARDON	22K	5%	1/4W		R087	1-249-417-11	CARBON	1K	5%	1/4W	
R022	1-249-433-11	CARBON	22K	5%	1/4W		   DOOO	1 240 405 11	040000		4		
R023	1-249-429-11	CARBON	10K	5%	1/4W		R088	1-249-425-11	CARBON	4°.7K	5%	1/4W	
R024	1-249-429-11	CARBON	10K	5%	1/4W		R090 R091	1-249-413-11	CARBON	470	5%	1/4W	
R025	1-249-417-11	CARBON	1K	5%	1/4W		R091   R093	1-249-409-11 1-249-429-11	CARBON	220	5%	1/4W	
R030	1-249-425-11	CARBON	4.7K	5%	1/4W		R094	1-249-429-11	CARBON	10K	5 <b>%</b>	1/4W	
				0,0	A/ 7H		) 1(034 	1-249-429-11	CARBON	10K	5%	1/4W	
R031	1-249-429-11	CARBON	10K	5%	1/4W		R095	1-249-409-11	CARBON	220	E 0/	1 /4:1	
R032	1-249-417-11	CARBON	1K	5%	1/4W		R096	1-249-409-11	CARBON	220	5%	1/4W	
R033	1-249-413-11	CARBON	470	5%	1/4W		R097	1-249-429-11	CARBON	10K	5% 5%	1/4W	
R034	1-249-413-11	CARBON	470	5%	1/4W		R098	1-249-429-11	CARBON	10K	5% 5%	1/4W 1/4W	
R035	1-249-431-11	CARBON	15K	5%	1/4W		R099	1-215-900-11	METAL OXIDE	22K	5%	2W	F
								300 11	TIETAL ONIDE	LLK	J 76	2 M	F
R036	1-249-421-11	CARBON	2.2K	5%	1/4W		R251	1-249-417-11	CARBON	1K	5%	1/4W	
R037	1-249-417-11	CARBON	1K	5%	1/4W		R252	1-249-413-11	CARBON	470	5%	1/4W	
R038	1-249-417-11	CARBON	1K	5%	1/4W		R253	1-249-413-11	CARBON	470	5%	1/4W	
R039 R040	1-249-417-11	CARBON	1K	5%	1/4W		R255	1-249-385-11	CARBON	2.2	5%		F
K040	1-249-417-11	CARBON	1K	5%	1/4W		R256	1-249-385-11	CARBON	2.2	5%		F
R041	1-249-417-11	CARBON	11/	E <b>o</b> ⁄	1 / 411	-							
R042	1-249-417-11	CARBON	1K 1K	5% 5%	1/4W		R260	1-249-393-11	CARBON	10	5 <b>%</b>	1/4W	
R043	1-249-417-11	CARBON	1K	5% 5%	1/4W 1/4W		R261	1-249-429-11	CARBON	10K	5%	1/4W	
R044	1-249-429-11	CARBON	10K	5%	1/4W 1/4W		R262	1-249-413-11	CARBON	470	5%	1/4W	
R045	1-249-417-11	CARBON	1K	5%	1/4W		R263 R264	1-249-421-11	CARBON	2.2K	5%	1/4W	
		Onnoon	11	J 76	1/ 77		K204	1-249-421-11	CARBON	2.2K	5%	1/4W	
R046	1-249-429-11	CARBON	10K	5%	1/4W		R265	1-249-425-11	CARBON	ער ו	E o/	1 //12	
R048	1-249-417-11	CARBON	1K	5%	1/4W			1-249-425-11	CARBON	4.7K 4.7K	5% 5%	1/4W 1/4W	
R049	1-249-417-11	CARBON	1K	5%	1/4W			1-249-434-11	CARBON	27K	5%	1/4W	
R050	1-249-433-11	CARBON	22K	5%	1/4W			1-249-435-11	CARBON	33K	5%	1/4W	
R051	1-249-429-11	CARBON	10K	5%	1/4W	j		1-249-413-11	CARBON	470	5%	1/4W	
DOES	1 0/0 /00 11					1					0,0	-,	
R052	1-249-439-11	CARBON	68K	5%	1/4W	ĺ		1-249-413-11	CARBON	470	5%	1/4W	
R053	1-249-437-11	CARBON	47K	5%	1/4W			1-249-413-11	CARBON	470	5%	1/4W	
R054	1-249-417-11	CARBON	1K	5%	1/4W			1-215-487-00	CARBON	560K	5%	1/4W	
R055 R057	1-249-433-11	CARBON	22K	5% 5%	1/4W	ļ	R501	1-249-413-11	CARBON	470	5%	1/4W	
NOJ/	1-249-409-11	CARBUN	220	5%	1/4W		R502	1-249-409-11	CARBON	220	5%	1/4W	
R058	1-249-409-11	CARBON	220	E 9/	1 / / ! !	ļ	DECC	1 040 410 11	240000				
R061	1-249-417-11	CARBON	220 1K	5% 5%	1/4W 1/4W	ļ		1-249-410-11	CARBON	270	5%	1/4W	
R062	1-249-411-11	CARBON	330	5%		!		1-215-427-00	METAL	1.8K		1/6W	
R063	1-249-431-11	CARBON	350 15K	5% 5%	1/4W 1/4W			1-249-431-11	CARBON	15K	5%	1/4W	
R064	1-249-429-11	CARBON	10K	5%	1/4W 1/4W	!		1-249-428-11	CARBON	8.2K	5%	1/4W	
	,	S. INDOIL	TOK	J /6	1/ 7W	ļ	R507	1-247-891-00	CARBON	330K	5%	1/4W	
R067	1-249-413-11	CARBON	470	5%	1/4W	ļ	R508	1-247-849-00	CARBON	E 6V	E 9/	1.7.00	
R068	1-249-421-11	CARBON	2.2K		1/4W	Ì		1-249-424-11	CARBON	5.6K 3.9K		1/4W 1/4W	
R069	1-249-423-11	CARBON	3.3K		1/4W	i		1-247-849-00	CARBON	5.6K		1/4W	
						,			J. 1110 UT	J. UK	J 70	TI AM	

# V H5 J1

<u> </u>														
Ref.No	. Part No.	Description				Remark	Ref.No.	Part No.	Description			Remark		
Q09	8-729-117-54	TRANSISTOR 25					X03	1-567-686-11	OSCILLATOR,	CERAMIC				
Q10 Q11	8-729-117-54 8-729-117-54	TRANSISTOR 2SA1175 TRANSISTOR 2SA1175					  ***********************************							
	RESISTOR						   	*1-622-534-11	H5 BOARD					
R01 R02	1-218-021-51 1-249-425-11	METAL OXIDE CARBON	470 4.7K	5% 5%	1W 1/4W		İ	CON	NECTOR					
R04	1-218-021-51	METAL OXIDE	470	5%	1w		İ							
R05 R06	1-215-128-00 1-2 <b>49</b> -417-11	METAL CARBON	100 1K	5% 5%	1/4W 1/4W		CNH01   CNH02	*1-564-896-11 *1-564-898-11	PLUG, CONNEC	TOR 7P TOR 9P				
R07		CARBON	100	5%	1/4W		Ì	DIO	DE					
R08 R09	1-249-411-11 1-249-438-11	CARBON	330	5%	1/4W		D1401	0 710 211 22	DIODE 65: 116					
R13	1-249-435-11	CARBON CARBON	56K 100	5% 5%	1/4W 1/4W			8-719-311-23 *2-261-216-00						
R14	1-249-405-11	CARBON	100	5%	1/4W			8-719-311-23	HOLDER (S), DIODE SEL112					
								*2-261-216-00	HOLDER (S),					
R15	1-215-493-00	CARBON	1M	5%	1/4W		D1403	8-719-311-23	DIODE SEL112	2R-N				
R16 R17	1-249-420-11 1-249-417-11	CARBON CARBON	1.8K 1K	5% 5%	1/4W 1/4W			+2 261 216 00	NOI DED (C)	NED (C) (ED D1403				
R18	1-249-425-11	CARBON	4.7K	5%	1/4W			*2-261-216-00 8-719-311-23						
R19	1-249-411-11	CARBON	330	5% 1/4W				*2-261-216-00						
								8-719-812-41	DIODE TLR124					
R20	1-215-146-00	METAL	560	5%	1/4W			4-359-103-00	HOLDER, LED;	D1405				
R27 R28	1-249-399-11 1-249-399-11	CARBON CARBON	33 33	5% 5%	1/4W			10						
R29	1-249-399-11	CARBON	33	5%	1/4W 1/4W		 	<u>IC</u>						
R30	1-215-130-00	METAL	120	5%	1/4W		IC1401	8-741-138-70	IC BX1387					
R31	1-215-130-00	METAL	120	5%	1/4W		   RESISTOR							
R32	1-215-130-00	METAL	120	5%	1/4W		ł	KES	13101					
R33	1-247-805-00	CARBON	82	5%	1/4W		R1491	1-249-414-11	CARBON	560 5%	1/4W			
R34	1-249-417-11	CARBON	1K	5%	1/4W		!				·			
R37	1-249-405-11	CARBON	100	5%	1/4W		1	<u>SW I</u>	TCH					
R38	1-249-416-11	CARBON	820	5%	1/4W		51401	1-571-085-21	SWITCH TACT	TOLE				
R40	1-249-425-11	CARBON	4.7K	5%	1/4W		S1402	1-571-085-21	SWITCH, TACT					
R41	1-249-413-11	CARBON	470	5%	1/4W			1-571-085-21	SWITCH, TACT					
R43	1-249-425-11	CARBON	4.7K	5%	1/4W			1-571-085-21	SWITCH, TACT					
R44	1-249-413-11	CARBON	470	5%	1/4W		1 51405	1-571-085-21	SWITCH, TACT	ICLE				
R45 R46	1-215-152-00	METAL	1K	5%	1/4W			1-571-085-21	SWITCH, TACT					
1,40	1-247-779-00	CARDON	6.8	5%	1/6W			1-571-085-21 1-571-085-21	SWITCH, TACT SWITCH, TACT	ICLE				
	VAR	IABLE RESISTOR	₹					1-571-085-21	SWITCH, TACT	ICLE				
RV01	1-230-624-51	RES, ADJ, CAR	- DRON 22	20			\$1411	1-571-085-21	SWITCH, TACT					
	1 200-024-31	1125, ADO, CAN	NON ZZ	.0			S1412	1-571-085-21	SWITCH, TACT	ICLE				
	CON	INECTOR					S1414	1-571-085-21						
V1	*1-560-123-00						*****	*****	*****	*****	*****	* *****		
V 2 V 3	*1-560-125-00	PLUG, CONNECT						. 1071 005 .						
V 4	*1-560-126-00 *1-560-123-00	PLUG, CONNECT PLUG, CONNECT						*A-1371-335-A	JI BOARD, CO					
V 5	*1-56O-290-00	PLUG, CONNECT					1			*****				
٧6	*1-508-784-00	·					į	CAP	ACITOR					
• 0							C1407	1-124-477-11	ELECT	47MF	20%	16V		
	CRY	STAL						1-124-902-00	ELECT	0.47MF	20%	<b>5</b> 0V		
XO1	1-567 162 00	OSCILLATOR O	DVCTAL					1-124-902-00 1-102-112-00	ELECT	0.47MF	20%	50V		
X02	1-567-495-11	O OSCILLATOR, CRYSTAL OSCILLATOR, CRYSTAL						1-102-112-00	CERAMIC CERAMIC	330PF 330PF	10% 10%	50V 50V		
	.50 11						1-110-182-81	MYLAR	0.022MF	10%	250V			
							C1424	1-110-182-81	MYLAR	0.022MF	10%	250V		



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Ref.No. Part No.	Description			Remark	Ref.No.	Part No.	Description		·	Remark		
R816 1-218-023-51 R817 1-249-417-11 R820 1-249-403-11 R821 1-247-725-11 R822 1-217-778-11	METAL OXIDE CARBON CARBON CARBON FUSIBLE	1K 5 68 5 10K 5	% 1W % 1/4W % 1/4W % 1/4W % 1W	F F	C18   C19   C20   C21   C24	1-102-953-00 1-110-171-81 1-102-978-00 1-110-173-81 1-126-101-11	CERAMIC MYLAR CERAMIC MYLAR ELECT	18PF 0.047MF 220PF 0.068MF 100MF	5% 10% 5% 10% 20%	50V 100V 50V 100V 16V		
R825 l-216-345-11 R826 l-249-441-11 R827 l-249-429-11 R828 l-249-423-11 R829 l-249-416-11	METAL OXIDE CARBON CARBON CARBON CARBON	100K 5 10K 5 3.3K 5	% 1W % 1/4W % 1/4W % 1/4W % 1/4W	F	C25   C27   C28   C29   C51	1-124-477-11 1-102-820-00 1-102-116-00 1-124-927-11 1-110-175-81	ELECT CERAMIC CERAMIC ELECT MYLAR	47MF 330PF 680PF 4.7MF 0.1MF	20% 5% 10% 20% 10%	16V 50V 50V 50V 100V		
R830 1-249-429-11 R1001 1-249-421-11 R5501 1-249-429-11 R5502 1-249-417-11 R5503 1-249-389-11	CARBON CARBON CARBON CARBON CARBON	2.2K 5 10K 5 1K 5	% 1/4W % 1/4W % 1/4W % 1/4W % 1/4W		C52   C53   C54   C55   C56	1-110-175-81 1-110-175-81 1-110-175-81 1-110-175-81 1-110-175-81	MYLAR MYLAR MYLAR MYLAR MYLAR	0.1MF 0.1MF 0.1MF 0.1MF 0.1MF	10% 10% 10% 10%	100 V 100 V 100 V 100 V 100 V		
R5504 1-215-493-00 VA	CARBON RIABLE RESISTO		% 1/4W		C57   C58   C59	1-102-074-00 1-102-074-00 1-102-074-00	CERAMIC CERAMIC CERAMIC	0:001MF 0.001MF 0.001MF	10% 10% 10%	50V 50V 50V		
RV501 1-228-991-00	RES, ADJ, CA	RBON 2.2K			<u> </u> 	TRIMMER						
RV502 1-230-630-11 RV601 1-228-990-00	RV502 1-230-630-11 RES, ADJ, CARBON 10K						CAP, TRIMMER					
SPARK GAP						DIODE						
SG801 1-519-063-XX DISCHARGING GAP  TRANSFORMER  T601  1-448-961-11 S.R.T						8-719-109-89 8-719-110-36 8-719-911-19 8-719-109-69 8-719-109-96	DIODE RD13ES-B2 DIODE 1SS119 DIODE RD3.6ES-B2					
T602 <b>A</b> .1-424-011-11	T602 ⚠.1-424-011-11 TRANSFORMER, PULSE						DIODE RD6.8ES-B1					
*****	******	*****	*****	*****	 	<u>IC</u>						
*A-1347-014-A	*******	   ICO1   ICO2   ICO3	8-759-942-54 8-759-947-51 8-759-946-85	IC MAB8461P-1 IC SAA5231-V IC SAA5243E	4							
-	PACITOR				ICO4	8-759-113-01	IC UPD4364CX	-15L				
CO1 1-126-101-11 CO2 1-124-120-11		100MF 220MF	20 <b>%</b> 20 <b>%</b>	16V 16V	 	<u>C01</u>	<u>L</u>					
CO3 1-124-119-00 CO4 1-124-477-11 CO5 1-126-101-11	ELECT	330MF 47MF 100MF	20% 20% 20%	16V 16V 16V	L01 L02 L03 L04	1-408-411-00 1-410-468-11 1-410-468-11 1-410-468-11	MICRO INDUCT	OR 6.8UH OR 6.8UH				
C06 1-124-120-11 C07 1-124-499-11		220MF 1MF	20% 20%	16 V 50 V	L05	1-410-468-11	MICRO INDUCT	OR 6.8UH				
C08 1-102-951-00 C09 1-102-074-00	CERAMIC	15PF 0.001MF	5% 10%	50V 50V	L06	1-410-468-11	MICRO INDUCT	OR 6.8UH				
C10 1-102-824-00	CERAMIC	470PF	5%	50 <b>v</b>	<u> </u> 	TRA						
C11 1-110-182-81 C12 1-102-980-00 C13 1-102-973-00 C14 1-102-951-00 C15 1-102-961-00	CERAMIC CERAMIC	0.022MF 270PF 100PF 15PF 27PF	10% 5% 5% 5% 5%	250V 50V 50V 50V 50V	Q01   Q02   Q03   Q04   Q05	8-729-904-27 8-729-177-43 8-729-900-80 8-729-178-54 8-729-177-43	TRANSISTOR 2: TRANSISTOR 2: TRANSISTOR D' TRANSISTOR 2: TRANSISTOR 2:	SD774 TC114ES SC2785				
C16 1-110-190-81 C17 1-110-171-81		0.01MF 0.047MF	10% 10%	400V 100V	   Q06   Q07	8-729-178-54 8-729-178-54	TRANSISTOR 2: TRANSISTOR 2:					

The components identified by shading and mark A are critical for safety.
Replace only with part number specified.

## J2 KS

Ref.No.	Part No.	Description			Remark	Ref.No.	Description				Remark	
<u>JACK</u>						1	RES	ISTOR				
J1401	1-507-806-00	JACK				R204	1-249-435-11	CARBON	33K	5%	1/4W	
RESISTOR						R205   R206	1-249-435-11 1-249-423-11	CARBON CARBON	33K 3.3K	5% 5%	1/4W 1/4W	
	1-215-144-00 1-215-144-00	METAL METAL	470 5% 470 5%	1/4W 1/4W		R207   R208 	1-249-423-11 1-249-431-11	CARBON CARBON	3.3K 15K	5% 5%	1/4W 1/4W	
*****	*****	******	*****	******	R209	1-249-433-11 1-249-431-11	CARBON CARBON	22K 15K	5% 5%	1/4W		
	*1-622-449-11					R211   R212   R213	1-249-441-11 1-249-433-11 1-249-431-11	CARBON CARBON CARBON	100K 22K 15K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
	CAP	ACITOR				   R214	1-249-417-11	CARBON	1 K	5%	1/4W	
C202	1-124-902-00	ELECT	0.47MF	20%	50 <b>v</b>	R215   R216	1-249-433-11 1-249-433-11	CARBON CARBON	22K 22K	5% 5%	1/4W 1/4W	
C204 C213	1-124-902-00 1-1 <b>24-908</b> -11	ELECT ELECT	0.47MF 2 <b>2MF</b>	20% 20%	50 <b>v</b> 5 <b>0v</b>	R217   R218	1-249-431-11 1-249-417-11	CARBON CARBON	15K 1K	5% 5%	1/4W 1/4W	
C214 C217	1-110-188-81 1-110-188-81	MYLAR MYLAR	0.0068MF 0.0068MF	10 <b>%</b> 10 <b>%</b>	400V 400V	j   R219	1-249-429-11	CARBON	10K	5%	1/4W	
						R221	1-249-417-11	CARBON	1K	5%	1/4W	
C218 C219	1-110-182-81 1-110-182-81	MYLAR MYLAR	0.022MF 0.022MF	10% 10%	250V 250V	R222 R225	1-249-417-11 1-249-417-11	CARBON CARBON	1K 1K	5% 5%	1/4W 1/4W	
C220 C221	1-108-620-91 1-108-620-91	MYLAR MYLAR	0.0033MF 0.0033MF	10% 10%	100V 100V	R226	1-249-417-11	CARBON	1K	5%	1/4W	
C222	1-110-182-81		0.0033MF	10%	250V	R227	1-249-417-11	CARBON	1K	5%	1/4W	
C223	1-110-182-81		0.022MF	10%	250V	R228 		CARBON	1K	5%	1/4W	
C224 C225	1-110-190-81 1-136-173-00	MYLAR FILM	0.01MF 0.47MF	10% 5%	400V 50V	**************************************						
C226 C227	1-136-173-00 1-110-182-81	FILM MYLAR	0.47MF 0.022MF	5% 10%	50V 250V	į		CELLANEOUS				
C228 C229	1-110-184-81 1-110-192-81	MYLAR MYLAR	0.033MF 0.015MF	10% 10%	250V 400V		.1-426-325-11 .1-451-311-21	COIL, DEMAGNE DEFLECTION YO				
C230 C231	1-110-192-81 1-124-902-00	MYLAR ELECT	0.015MF 0.47MF	10% 20%	400V 50V	1-452-032-00 MAGNET, DISK; 10MM ø 1-452-094-00 MAGNET, ROTATABLE DISK; 15MM ø						
C232	1-123-875-11	ELECT	10MF	20%	50V	!		•	ABLE D	15K; 1	omm Ø	
C233	1-102-114-00	CERAMIC	470PF	10%	50 <b>v</b>	1 🛕	1-503-642-11 . <b>1-559-346-</b> 11	SPEAKER CORD, POWER (	WITH C	ONNECT	OR)	
C234 C235	1-102-114-00 1-102-114-00	CERAMIC CERAMIC	470PF 470PF	10% 10%	50V 50V	I		TRANSFORMER A				
C236 C237	1-102-114-00 1-124-902-00	CERAMIC ELECT	470PF 0.47MF	10% 20%	50V 50V	V901 🛦	.8-733-224-05	PICTURE TUBE	(A59JW	C60X)		
C238	1-102-970-00	CERAMIC	220PF	5 <b>%</b>	50 <b>V</b>	*****	******	*****	*****	*****	*****	*****
C239	1-126-103-11	ELECT	470MF	20%	16V	1		IES AND PACKIN				
	CON	NECTOR				***************						
CNK21	*1-562-370-21	CONNECTOR, B	OARD TO BOAR	D 18P		 	Part No.	Description				Remark
CNK21 *1-562-370-21 CONNECTOR, BOARD TO BOARD 18P DIODE						A-1470-808-A COMMANDER ASSY (RM-673) *4-366-617-01 BAG, PROTECTION						
D205	8-719-110-04		c n 2			,	*4-385-906-01	CUSHION (UPPE	R) (AS	SY)		
0206	8-719-110-04						*4-385-907-01 *4-385-910-01	INDIVIDUAL CAL CUSHION (LOWE				
	<u>IC</u>						4-482-477-61 MANUAL, INSTRUCTION (EXCEPT				PT (G)	
IC201	8-759-013-17	IC TDA6200				 	4-482-477-71	MANUAL, INSTRU				
						İ	* *					

The components identified by shading and mark A are critical for s∓ety.
Replace only with part number specified.

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**J2** 

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Ref.No. Part No.	Description			Remark	Ref.No.	Part No.	Description				Remark
C1427 1-101-003-00 C1428 1-101-003-00 C1431 1-124-655-11 C1432 1-124-902-00 C1433 1-126-101-11	CERAMIC CERAMIC ELECT ELECT ELECT	0.0047MF 0.0047MF 0.47MF 0.47MF 100MF	20% 20% 20%	50V 50V 50V 50V 16V	R1437 R1440 R1441	1-249-393-11 1-249-429-11 1-249-416-11 1-249-416-11 1-249-437-11	CARBON CARBON CARBON CARBON CARBON	10K ! 820 ! 820 !	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	F
C1501 1-123-875-11 C1502 1-123-875-11 C1503 1-108-614-91 C1504 1-124-910-11 C1505 1-110-171-81	ELECT ELECT MYLAR ELECT MYLAR	10MF 10MF 0.001MF 47MF 0.047MF	20% 20% 10% 20% 10%	50V 50V 100V 50V 100V	R1449 R1450 R1451	1-249-437-11 1-249-405-11 1-249-413-11 1-249-413-11 1-249-433-11	CARBON CARBON CARBON CARBON CARBON	100 ! 470 ! 470 !	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
C1507 1-108-620-91 C1508 1-123-875-11 C1509 1-124-499-11 C1511 1-123-875-11 C1512 1-110-188-81	MYLAR ELECT ELECT ELECT MYLAR	0.0033MF 10MF 1MF 10MF 0.0068MF	10% 20% 20% 20% 10%	100V 50V 50V 50V 400V	R1503   R1504   R1505	1-249-434-11 1-247-895-00 1-249-435-11 1-249-433-11 1-247-895-00	CARBON CARBON CARBON CARBON CARBON	470K ! 33K ! 22K !	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
C1513 1-102-963-00 C1514 1-110-183-81 C1515 1-102-117-00		33PF 0.027MF 820PF	5% 10% 10%	50V 250V 50V	R1510   R1511	1-247-887-00 1-247-849-00 1-249-417-11 1-249-429-11	CARBON CARBON CARBON CARBON	5.6K !	5% 5%	1/4W 1/4W 1/4W 1/4W	
CON	NECTOR					1-249-438-11	CARBON			1/4W	
CN1401 1-537-088-11 CN1402 1-561-534-91 CNJ41 *1-566-641-11 CNJ43 *1-564-893-11 CNJ51 *1-566-641-11	TERMINAL BOAR SOCKET 21P CONNECTOR, HI PLUG, CONNECT CONNECTOR, HI	INGE (TAB) : FOR 4P	18P		R1516 R1517 R1518	1-249-417-11 1-215-489-00 1-249-432-11 1-249-411-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON	680K : 18K : 330 : 10K : 5	5 <b>%</b> 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
CNJ67 *1-560-721-21 CNJ142*1-564-893-11	PLUG, CONNECTO PLUG, CONNECTO				1	1-247-883-00 1-247-895-00	CARBON CARBON			1/4W 1/4W	
DIODE						1-247-849-00	CARBON	5.6K		1/4W	
					]	VAR	IABLE RESISTO	₹			
D1407 8-719-110-18 D1409 8-719-110-14 D1410 8-719-110-14 D1419 8-719-110-04 D1501 8-719-911-19	DIODE RD10ES DIODE RD9.1E DIODE RD9.1E DIODE RD7.5E DIODE 1SS119	S-B3 S-B3			RV1502 RV1503 RV1504	1-228-999-00 1-228-994-00 1-228-995-00 1-228-990-00	RES, ADJ, CAF RES, ADJ, CAF RES, ADJ, CAF RES, ADJ, CAF	- RBON 4701 RBON 10K RBON 22K RBON 1K			
D1502 8-719-911-19 D1503 8-719-911-19 D1504 8-719-911-19 D1505 8-719-000-12	DIODE 1SS119			/	   RV1506   RV1507   RV1508	1-228-999-00 1-228-995-00 1-230-504-11 1-228-994-00 1-228-999-00	RES, ADJ, CAF RES, ADJ, CAF RES, ADJ, CAF RES, ADJ, CAF RES, ADJ, CAF	RBON 22K RBON 220 RBON 10K			
<u>IC</u>					j		, ,				
IC1402 8-759-946-32 IC1501 8-759-942-16	IC TEA2031A				i	*********** *1-622-448-11	J2 BOARD ******	*****	*****	****	****
<u>C01</u>					1	CAP	ACITOR				
L1401 1-459-407-00 L1402 1-459-407-00	COIL, FERRIT	E CHOKE E CHOKE				1-126-105-11 1-126-105-11	ELECT	1000MF 1000MF			35V 35V
RES	SISTOR				1 01402			TOOOLL	2	<i>G</i> 80	33¥
R1417 1-249-404-00 R1423 1-247-849-00 R1424 1-247-849-00 R1428 1-247-895-00 R1429 1-247-895-00	CARBON CARBON CARBON CARBON CARBON	82 5% 5.6K 5% 5.6K 5% 470K 5%	1/4W 1/4W 1/4W 1/4W 1/4W		   CNJ23   CNJ242	*1-564-893-11 *1-564-893-11	PLUG, CONNECT PLUG, CONNECT	TOR 4P TOR 4P			
R1430 1-249-404-00 R1433 1-249-409-11	CARBON CARBON	82 5% 220 5%	1/4W 1/4W								